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SPECIAL ARTICLE.

AN HISTORICAL SKETCH OF THE DEPARTMENT OF MEDICINE AND SURGERY OF THE UNIVERSITY OF MICHIGAN.

THE Department of Medicine and Surgery of the University of Michigan recently completed the fiftieth year of its existence; a brief review of the more important facts bearing on its establishment and development would therefore seem timely. The fact that this medical school was the first to be established as a department in a State University, and is now one of the very few medical schools founded in a comparatively small inland city, which has shown a constant growth from its beginning, gives it a unique position and must of necessity attach some interest to its history.

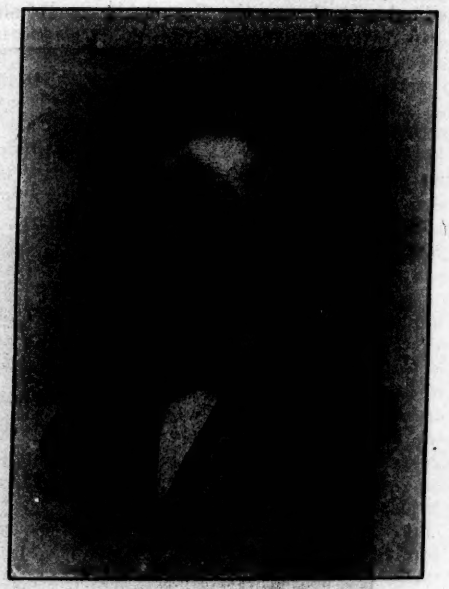
Medical Building, University of Michigan, as completed in 1865.

In an act, passed March 18, 1837, providing for the organization and government of the University of Michigan, we read in Section 8 that the University shall consist of three departments: (1) The department of literature, science and the arts; (2) the department of law; (3) the department of medicine. This Section further states that in the department of medicine there shall be established the following professorships: "One of anatomy; one of surgery; one of physiology and pathology; one of the practice of physic; one of obstetrics and diseases of women and children, and one of materia medica, and jurisprudence." No steps were taken, however, to carry out that part of this measure relating to the establishment of the medical department until 1847, when a committee of the Board of Regents, of which Dr. Zina Pitcher was chairman, urged its immediate organization; they reported at some length as to methods and aims, calling especial attention to the necessity of requiring an adequate preparation before the study of medicine was undertaken. The medical department was, however, not opened until October, 1850. The qualifications required for admission at the time of opening were "A good English education, the knowledge of natural philosophy, the elementary mathematical sciences, and such an acquaintance with the Latin and Greek languages as will enable the student to appreciate the technical language of Medicine and read and write pre-

scriptions." The course of lectures extended from the first Wednesday in October to the third Wednesday in April. Four lectures were given daily, except on Saturdays, which were occupied by the alternate hearing and criticism of these. To be admitted to the degree of Doctor of Medicine the student was required to show evidence of having pursued the study of medicine and surgery for the term of three years, including the time spent with a preceptor, attended two full courses of lectures, submitted a thesis and passed an examination held at the end of the term. An allowance of one year from the term was made in favor of college graduates.

Soon after the establishment of the Department of Medicine, the University of Michigan was singularly fortunate in obtaining as its first president Dr. Henry Philip Tappan, that prince of educators, to whom the educational system of Michigan, and indeed, of the country at large, owes so much. He entered upon his work at Michigan University after he had learned to appreciate the Prussian system of education. His broad conception of what a university should be has as yet been scarcely realized in America. To what extent his influence shaped the policy of the medical department in its early days, can now be only conjectured. It seems justifiable, however, to assume that the following passage which appeared for a number of years in announcements of the department of medicine during its early history, expressed his hopes and desires: "The Medical Faculty, in common with all the enlightened members of the professions, desire, earnestly, that a rule might prevail in our country like that which prevails in the Universities of Prussia, by which a liberal education should be made the necessary introduction to professional study. The Sciolist easily runs into the Empiric; but, he who has obtained a thorough scientific discipline knows how to discriminate between visionary conjecture and established truths."

Before the opening of the medical school in 1850 the Board of Regents authorized the erection of a medical building and a portion of the present home of the medical department was built, thus making provision for lecture rooms and the then necessary laboratories. A faculty composed of five professors had been selected sometime before the date of opening, of whom two, namely Drs. Sager and Douglas, were transferred from the faculty of the Department of Science, Literature and the Arts to that of Medicine. In the calendar of 1850-51 the first faculty was announced as follows: Abram Sager, A.M., M.D., President and Professor of Obstetrics and Diseases of Women and Children; Silas H. Douglas, A.M., M.D., Professor of Chemistry, Pharmacy, and Medical Jurisprudence; Moses Gunn, M.D., Secretary and Professor of Anatomy and Surgery; Samuel Denton, M.D., Professor of Theory and Practice of Physic and Pathology; J. Adams Allen, M.D., Professor of Therapeutics, Materia Medica and Physiology; R. C. Kedzie, A.B., Acting Demonstrator of Anatomy. This faculty was early strengthened by the addition in 1854 of Alonzo B. Palmer, M.D., Professor of Materia Medica, Therapeutics and Diseases of Women and Children; and Corydon L. Ford, M.D., Professor of Anatomy. In 1860, upon the death of Dr. Denton, Dr. Palmer became Professor of the Theory and Practice of Medicine, of Pathology and Materia Medica; Dr. Sager, Professor of Obstetrics and Diseases of Women and Children; and Dr. Ford, Professor of Anatomy and Physiology. An extended personal sketch of the members of these faculties, interesting and instructive

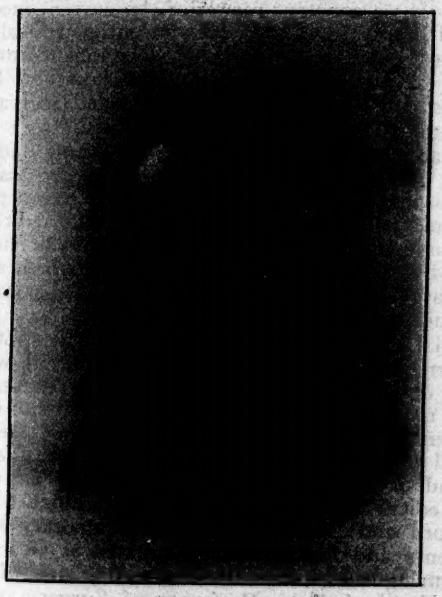


ABRAM SAGER.
(1850-1875)

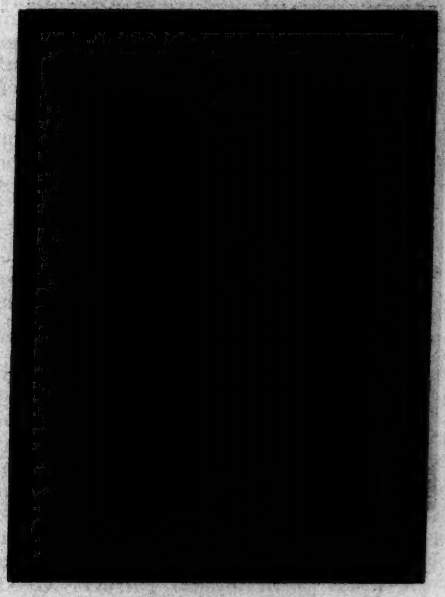
though it might be, would lead the writer beyond the limits prescribed. Yet, since not bricks and mortar, but more especially able teachers make a real university, some brief reference to the worth of these men would seem fitting in this connection.

Dr. Sager was educated at the Rensselaer Polytechnic Institute, giving especial attention to Botany and Zoology; and subsequently extended his studies under Marsh and Ives, at New Haven. His medical education was obtained at New Haven, Albany and Castleton, Vermont, from which school he graduated in April, 1855. Soon after coming to Michigan, he was appointed chief in charge of the Botanical and Zoological Department of the Michigan Geological Survey. He served as Professor of Botany and Zoology in

this University from 1842 to 1850, after which time he became a member of the medical faculty. He was, however, not only a thoroughly trained scientist, truly imbued with the scientific spirit, but also a most skilful physician and dextrous operator, performing many major operations, among which may be mentioned a Cæsarian section, performed in the University Hospital in 1869. His medical writings contain frequent references to French and German literature and show a breadth of knowledge, which would be commendable even at the present time. He was for many years President or Dean of the Medical Faculty, and for a number of years gave the Lectures in physiology. "Dr. Sager's personal character, his eminence in his profession, and his faithful and able service to this University for thirty-three years were such as to place his name high among those whom it is the privilege of the University to honor."



SILAS HAMILTON DOUGLAS.
(1850-1877)

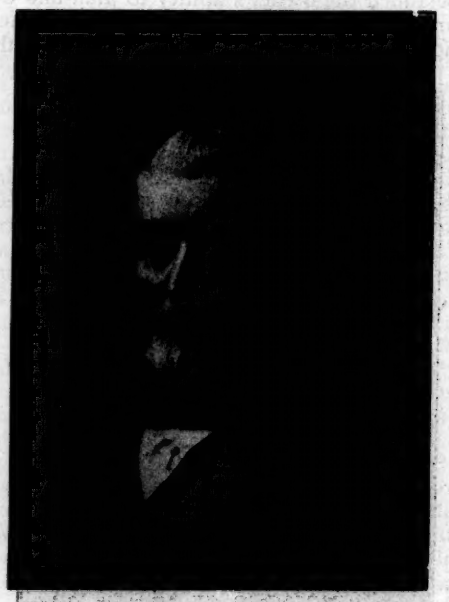


MOSES GUNN.
(1850-1864)

Dr. Douglas is especially to be remembered as one of the first teachers of science in America to appreciate and utilize the laboratory method of teaching. From its small beginning in 1856, the chemical laboratory soon grew under his wise management until for many years it deserved the reputation of being one of the largest and best equipped on this continent. This laboratory was open to medical students from its very beginning. (The work so ably begun by Dr. Douglas has been fostered and further developed by Professor A. B. Prescott, for a time his co-worker, then his successor, and now the oldest and most respected member of the present medical faculty.)

Dr. Moses Gunn was graduated from the Geneva Medical College in 1846. Soon after he came to Ann Arbor and gave a course of lectures on anatomy, accompanied by dissection and demonstrations. He, perhaps more than any other member of the original medical faculty, deserves the distinction of being called the father of the department which he helped to establish, and in which he labored so many years. The following brief eulogy, which I quote from the writings of another, describes admirably his bearing and worth: "Tall, manly and graceful in his bearing, with an eye which commanded and secured the respect of students and the obedience of patients, with well-developed forehead which proclaimed the owner's ability to plan and determination to win success, with a trained hand, which dared to do many operations, the landmarks of which were not then described in the works of surgery." Of his writings, that on "The Philosophy of Certain Dislocations of the Hip and Shoulder, and their Reduction," is of interest in this connection, since the observations reported in this contribution were made while he was a teacher at Ann Arbor. His articles on this subject were reprinted in pamphlet form in 1859, and this "little pamphlet of less than 25 pages contains more learning than volumes that many others have compiled," as has been said by one of the foremost surgeons and writers of the present generation.

Dr. J. Adams Allen was for two years Professor in the La Porte Medical College before receiving his appointment at the University of Michigan as member of the first medical faculty. He was a most scholarly man and versatile lecturer. It was often said of him that he could with distinction have filled any chair in the department. It is of interest here to note, not only as concerns the history of the medical department of this University, but also the history of American medicine, "That the whole subject of reflex nervous influence, of which excito-motor and excito-secretory action are but constituent parts, was taught as early as 1850 in the University of Michigan," by J. Adams Allen, "and in his teaching and writings are to be found the only explicit and comprehensive exposition of the whole



ALONZO BENJAMIN PALMER.
(1854-1887)

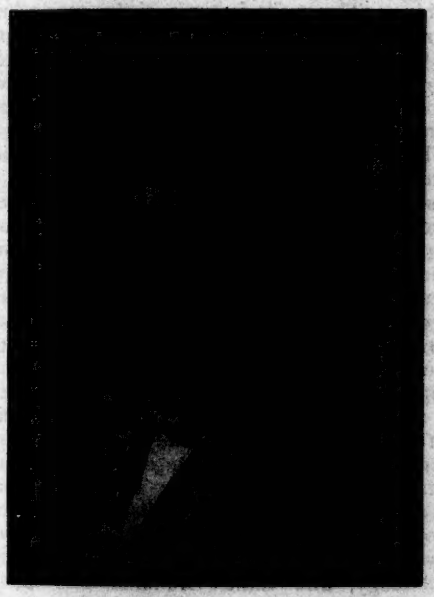
subject of reflex nervous action that has ever fallen under my observation."

The death of Dr. Denton in 1860, removed him only too early from the midst of this remarkable group of men. Before becoming a member of the first faculty he had served with distinction as Regent of the University and as State Senator.

Dr. Alonzo B. Palmer was graduated in 1839 from the College of Physicians and Surgeons of the Wsetern District of New York. Soon after graduation he came to Michigan, where for a number of years he led the arduous life of a country practitioner. The winters of 1847-8 and 1848-9 he spent in post-graduate work in New York and Philadelphia respectively, and during the former winter attended the courses of lectures on embryology given by Agassiz. In 1850 he established himself in Chicago and in 1853 was appointed city physician, which office he filled with great distinction during the severe cholera epidemic in 1854. In 1852 he received the appointment of Professor of Anatomy in the University of Michigan, which chair he was preparing himself to fill, when in 1854 he was called as Professor of Materia Medica, Therapeutics and Diseases of Women and Children. The years spent in general practice, his post-graduate study, his work as city physician in one of the largest of the then western cities, gave the inquiring and reflective mind of Dr. Palmer abundant opportunity to expand and mature, and fitted him for the work to which he had been called. Soon after coming to Ann Arbor his fund of information was further extended by post-graduate work in England, supplemented later by further visitations of European hospitals. The studious habits formed in his younger days developed with his years. He was a constant reader of the current medical literature of the day, and enthusiastically investigated all additions to the science and art of medicine. In his clinic, however, he was at his best. A most careful and accurate diagnostician himself, he constantly strove to establish similar habits in the student under his care. His method was to study each case thoroughly, rather than to exhibit many patients. Of his contributions to medical literature we may specially mention his "Science and Practice of Medicine," a work which appeared in 1883 and comprises two large volumes.

Dr. Corydon L. Ford graduated from the Geneva College of Medicine in 1842, and was at once appointed Demonstrator of Anatomy in that College. In 1846 he was elected to the same position in the newly established Medical Department of the University of Buffalo, and in 1849, Professor of Anatomy in the Medical School at Castleton, Vermont. Dr. Ford and Dr. Gunn were contemporary students and for a time roommates at Geneva. During these days, it is stated, Gunn often said, "I shall be Professor of Surgery in a medical school and you shall be Professor of Anatomy in the same institution." Happily this prophecy, unlike many prophecies, became true in 1854, when Dr. Ford entered on his work as Professor of Anatomy in this school, continuing until the time of his death, in 1894. Thus from the time of his graduation to the time of his death, for nearly three score years, he was a teacher of Anatomy, and as a teacher he excelled. He brought to the class room his store of knowledge, gathered not so much from books, as from personal observations, numerous preparations illustrating all phases of the topic discussed and a zealous enthusiasm, which was always imparted to his class, stimulating each student to become an eager listener and

a thoughtful and inquiring learner. His time was so occupied by teaching and the preparation of many valuable museum preparations, illustrating human and comparative anatomy, as to prevent his making many important contributions to medical science. It must be considered a most fortunate circumstance that both Dr. Palmer and Dr. Ford were able to labor more than a generation in this institution. The former for many years, in addition to his teaching, honored the deanship of the Department of Medicine, ever striving for its expansion and betterment and inaugurating many advances, the latter occupied the deanship during the closing years of his life. With these men labored for briefer periods, Dr. Edmund Andrews, for a time Professor of Comparative Anatomy and Demonstrator of



CORYDON L. FORD.
(1854-1894)

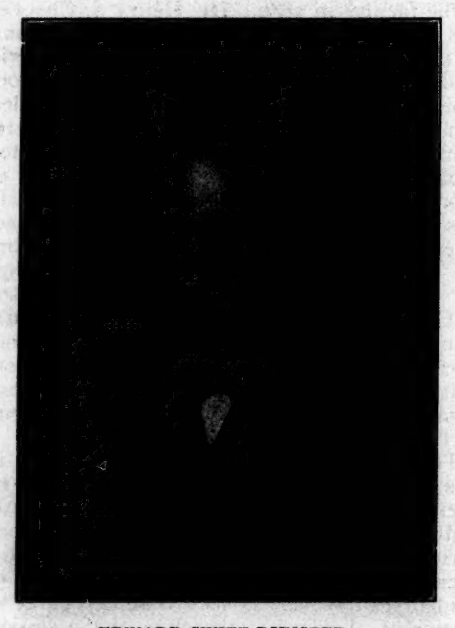
Anatomy and Dr. S. G. Armour, for a number of years Professor of the Institute of Medicine and of Materia Medica. With great wisdom and good judgment did this faculty inaugurate the work of this department.

In this brief sketch it will not be possible to do more than mention the names of men forming a part of the teaching force of the faculty of the Department of Medicine during the third and fourth decades of its existence; the transition period between the early faculty and the present one. In 1867-68 Dr. W. W. Green was Professor of Surgery. He was one of the first, perhaps the first American surgeons to extirpate the thyroid gland. In 1868-69, Dr. H. F. Lyster was Lecturer on Surgery. The following two years this chair was occupied by Dr. A. B. Crosby, a brilliant young surgeon, whose old coat—lest his better garment be soiled with blood—bore the marks of many major operations. He was succeeded in 1871 by Dr. T. A. McGraw, himself succeeded in 1872 by Dr. Donald Maclean. Dr. George E. Frothingham was appointed Demonstrator of Anatomy in 1867, Lecturer on Ophthalmology in 1870, later assuming the duties of Professor of Ophthalmology and Materia Medica and Therapeutics. In a comparatively short time, after he assumed the charge of the department of ophthalmology, it became a distinctive feature of the medical department. His interest in medical education caused him to take an active part in all attempts looking toward the general elevation of the standard of requirements for the degree of Doctor of Medicine. He resigned his place in the faculty in 1889. Dr. Henry S. Cheever was for a time Demonstrator of Anatomy and in 1870 was appointed Professor of Materia Medica and Therapeutics, which chair he occupied until 1876, when ill health compelled him to sever his connection with the department. Dr. E. S. Dunster was appointed Professor of Obstetrics and Diseases of Women in 1875, succeeding Dr. Sager. He was a learned teacher and a most brilliant lecturer, using the purest English, and arranging the subject matter most logically. In 1877 Dr. J. W. Langley was appointed Professor of General Chemistry in the medical department, which position he filled with distinction for about ten years. These and others that might well be mentioned here, did space permit, carried on the work, so well begun by their predecessors.

The number of students in attendance in this medical school has from the date of its opening to the present time, shown a steady and normal growth, presenting, however, one period in which the number showed a marked decrease. In 1850-51 there were enrolled 90 students, of which six received the degree of Doctor of Medicine at the close of the session. The enrollment increased rapidly in the succeeding years, reaching the number 525 in 1866-67. During the following ten years the registration decreased gradually, the year 1876-7 finding only 285 students in attendance.

The large number in attendance in 1866-7 (525) is in part accounted for by the fact that many young men, who, during the civil war acted as hospital stewards, entered upon the study of medicine soon after its close. The decrease in the number of students during the decade following 1866-7 has been attributed to the agitation resulting from an endeavor to establish a school of homœopathy in the University. This department was established in 1875. The proceedings of the Michigan State Medical Society, during the years in which this discussion was carried on, clearly reveal the attitude of the profession in Michigan toward this question. The American

Medical Association participated in the strife and for a number of years this matter was the subject of bitter discussion before this body. A settlement was reached at the Atlantic meeting in May, 1879, as a consequence of an able and most eloquent argument made by Dr. E. S. Dunster, then a member of this faculty. In order to appreciate the influence that this discussion had on the number of students enrolling in this department, it must be remembered that both the State and National Association attempted to prevent the graduates and teachers of this medical school from holding membership in these bodies. This was due to the fact that the grant made for the purpose of establishing a homœopathic department in this university was insufficient to provide for a full faculty and consequently



EDWARD SWIFT DUNSTER.
(1874-1888)

their students were required to receive instruction in the Department of Medicine in all the subjects not taught in the homœopathic department; hence the American Medical Association, "considered it derogatory for any physician or teacher to aid in any way the medical teaching or graduation of persons knowing them to be supporters and intended practitioners of some irregular or exclusive system of medicine."

Women were first admitted to the Medical Department in 1870, but for a number of years the instruction given the two sexes was separate, each professor after giving his lecture to the male students, repeating the same, in a small room, to the female students.

During the first and second decade of the existence of this department, the annual course of lectures was begun on the first Wednesday in October and continued until the third Wednesday in April. The candidate for a degree was required to have attended two full courses of lectures and to have spent one year with a practitioner. An allowance of one year from the term of study was made in favor of graduates of approved universities and colleges. In 1877 the course of study was extended to two years of nine months each and in 1880 three years of study of nine months each became necessary before a candidate could present himself for final examination. In 1890 the compulsory term of study was extended to four years of nine months each. The three years' course of nine months each allowed a graded curriculum to be established and the addition of a fourth year permitted further gradation and gave opportunity for extending laboratory teaching. The main features of the curriculum, in operation since 1890, have been sequence and concentration in the subjects presented, abundant laboratory teaching and general survey of each branch by means of lectures, recitations and demonstrations.

The qualifications required for admission were for many years essentially the same as those found in the first announcement. These were, as has been previously stated, a good English education, a knowledge of natural philosophy and of elementary mathematical sciences and of acquaintance with Latin and Greek. Greek was dropped from the list of entrance requirements in 1859. In 1890 the requirements for admission were advanced to a diploma from the classical or Latin course of an approved high school. This was modified in 1896 by requiring instead of a classical or Latin diploma, a certificate of having passed certain prescribed subjects. The list embracing a good knowledge of English, mathematics through geometry, general and American history, physics or chemistry, botany and zoology or biology, and Latin Grammar and Cæsar. To this list has been added plane trigonometry and a reading knowledge of either German or French, and in order to meet the entrance requirements in the sciences named, the entering student must now present a certificate showing that the courses pursued were accompanied by laboratory work. (A reading knowledge of both German and French will soon be demanded as an entrance requirement.) In thus specifying the subjects required to meet the entrance qualifications the aim has been to regulate as far as possible the education of those intending to pursue the study of medicine. The end desired, namely, a better training before the study of medicine is undertaken, would seem to be more readily attained by this means, than by making residence in a college or university for a prescribed period, without special reference to the curriculum pursued, a prerequisite to the study of medicine.

The importance of laboratory instruction was recognized by the founders of this department, and since its beginning this method of teachings has formed a prominent feature of its curriculum.

The first laboratory to be established was the anatomical, occupying rooms long since used for other purposes. Since 1880, by State enactment, provision is made for anatomical material. In 1856, a portion of the present chemical laboratory was built, and since that time medical students have received laboratory instruction in chemistry and the analysis of urine. In 1877 the Legislature voted $3,500.00 for the purpose of furnishing equipment for a histological and physiological laboratory. For a number of years the instruction in this laboratory was mainly in microscopic anatomy. In 1881 the study of physiology was further provided for by the appointment of Dr. Henry Sewall, first as Lecturer, then as Professor of Physiology. While in charge of this laboratory Dr. Sewall brought it into prominence by the publication of a goodly number of researches, not the least of which was one showing that pigeons could be immunized against the poison of the rattlesnake (1887). He was therefore one of the first to use a chemic agent in the production of artificial immunity. In 1878 an extended laboratory course in physiological chemistry was added to the curriculum. In the same year the laboratory of electrotherapeutics was established, the first of its kind in America. A laboratory course in this subject has been required of the students since 1890. In 1879 practical instruction in pathology was inaugurated. The Laboratory of Hygiene was built and equipped at the request of the Michigan State Board of Health in 1888. The objects as set forth in the memorial presented to the Board of Regents, were as follows: (1) Original research in the causation of disease; (2) the examination of food and water suspected of having caused disease; (3) the instruction of students. Since 1888 an extended course in bacteriology has formed a part of the required work of each student. The laboratory of clinical medicine was established in 1891, and was at that time the only officially recognized laboratory of its kind in America. Its primary function is that of carrying out the instrumental investigation of disease. Senior students have access to this laboratory and use it in working up the cases assigned them in the clinic. In 1892 was established the surgical laboratory, and as a part of his course each student performs laparotomies, ligates vessels, etc., on living animals, giving the same attention to antisepsis, asepsis and dressings as is bestowed on similar operations in man. In the same year was established the pharmacological laboratory. In this laboratory students are given the opportunity to study the effects of drugs on living animals and are taught the methods by which drugs are examined.

During the first two and one half years of his residence in this department each student spends four hours each afternoon, Saturday excepted, in laboratory work. The classes are divided into sections, each section working continuously for a given period in one laboratory, the sections alternating at the end of the laboratory period, each in turn taking up new work.

During the first few years of the existence of this department, clinical instruction received comparatively little attention. For a number of years after the opening of this school, the general announcement contained this statement, a portion of which might be read with profit even at this day: "The hasty walk through the wards of a hospital (necessarily hasty if entered upon at all during the lecture term) furnishes at best but a poor substitute for the close and accurate study of cases as they occur in the professional round of the private practitioner." It should be remembered that at that time a period of study under a preceptor formed a part of the educational requirements of a candidate for the degree of Doctor of Medicine. In 1857 there was established in Detroit in connection with this medical school, a school for clinical instruction, under the direction of Dr. Zina Pitcher and Dr. A. B. Palmer, the term beginning the 15th of June and ending the 30th of August. This course was, however, abandoned in 1859. In 1869 a large dwelling house on the college grounds was given to the medical department for a hospital building and was fitted up for that purpose. In 1876 two large pavilions were added to this building, thus greatly increasing the hospital facilities. The year 1891 saw the completion of the new University Hospital, situated a short distance from the campus. The faculty has thus had under its control for more than thirty years, a hospital which could be utilized without restriction for clinical instruction; the patients coming to the hospital with the full understanding that they would receive every care, but also, that they would be used for purposes of instruction in all legitimate ways. Students are taken to all the wards of the hospital, take histories, dress wounds, etc., and are able to study disease and observe treatment under the most favorable circumstances. In 1893 demonstration courses in clinical medicine, surgery, obstetrics and gynecology, ophthalmology and nervous diseases were inaugurated and became a part of the required work of each student. This work is given to the third year students, the class being divided into Sections numbering about twenty, each section confining itself for two hours, four times each week, for a period of six weeks to one department of clinical

work, at the end of which time the sections alternate and a new subject is entered upon.

The medical library of this University was started in 1854 by a special appropriation of $66.00. From this small beginning it has grown to a valuable working library of somewhat more than 10,000 volumes, not including a large chemical library. It now contains complete files of nearly all the important periodicals, academy reports, proceedings of societies, etc., pertaining to the science and art of medicine, published in this and foreign lands, also numerous handbooks and reference books and other works of interest to the student of medicine. The value of such a library will be readily appreciated by any one engaged in the pursuit of the science of medicine, for a good library is as essential to the research student as are laboratories or other facilities for the prosecution of such work.

ORIGINAL ARTICLES.

SOME ERRORS IN THE EXAMINATION OF URINE.[1]

BY LOUIS HEITZMANN, M.D.,
OF NEW YORK.

THERE are probably few practitioners who do not make examinations of urine more or less frequently, although chemical tests for albumin and perhaps sugar and microscopical examinations for casts are the only tests resorted to by the largest number. Whenever albumin is found a diagnosis of nephritis is unfortunately made by many without the use of the microscope; while others, who take the trouble to examine for casts, will, if the latter are not found, consider the case one of so-called "functional albuminuria."

Although the presence of albumin, even in small amount, is undoubtedly of some significance in every case, it does not necessarily follow that a lesion of the kidney must exist at the same time, since the presence of pus corpuscles, no matter from what cause, is sufficient to give a positive reaction. A mild cystitis, a urethritis, prostatitis or even a simple vaginitis may show albumin in the urine, while it is a well-known fact that even in grave kidney lesions, such as cirrhosis, the urine may at times contain such a minute amount of albumin as to escape detection completely, or it may even be entirely absent at certain hours of the day.

This being the case, it is plain that no diagnosis of nephritis should ever be made without the aid of the microscope, although the absence of casts, with the presence of a varying amount of albumin, does not exclude a kidney lesion; in cases of catarrhal or interstitial nephritis we rarely will find casts, and even in cirrhosis of the kidney, the termination of a chronic interstitial nephritis does not, as a rule, give casts in the urine.

Tests for albumin being so universally resorted to, it is surprising to see the large number of tests recommended as the best, and still more surprising to notice that occasionally two observers will not agree as to the presence or absence of albumin in a given case. While some continually recommend heat tests as the only reliable ones, others will tell you that only cold tests must be used, and give as their reason the precipitation of phosphates by simple heat and the fact that, unfortunately, some physicians will rely upon such heat tests alone in diagnosing the presence of albumin. Although different cold tests will undoubtedly show albumin when present in large amount, they will often not show it when present in small quantities only; the errors made with such tests are great since different substances may also give a reaction similar to that for albumin.

Heat tests are under all circumstances the most reliable, provided that acids are used to differentiate between phosphates and albumin. The acid most frequently used for this purpose—nitric acid—should, however, not be employed, since, if small amounts only of albumin are present and too much acid be added, no precipitation takes place. It is of the greatest importance in many cases that even the faintest traces of albumin be discovered, and the most reliable test for this purpose is heat and acetic acid. After boiling the urine thoroughly, two or three drops of a solution composed of equal parts of glacial acetic acid and water should be added, and, if no pronounced precipitation takes place, some unboiled urine poured into a second test-tube, the two being thus compared in a moderately strong light. In this manner even the faintest traces of albumin will at once become apparent, when they would not be found with any other test. Pure glacial acetic acid must not be used, the same objection holding good here as with nitric acid.

Since albumin will usually be found when pus corpuscles, even in comparatively small numbers, are seen under the microscope, we can soon convince ourselves by different tests, that the acetic acid is the most sensitive of all, giving a positive reaction where other tests fail. In cases of hyperemia of the kidney, or irritation of the pelvis of the kidney, due to lithemia or oxaluria, which as a rule contain only traces of albumin, these are frequently not discovered with the nitric-acid test.

Chemical tests for albumin are undoubtedly of the greatest practical importance, but microscopical examination of the urinary sediment is no less so, and it can never be sufficient to look for casts only and to pay no attention to the other features. Casts, however, being most commonly examined for, and supposedly universally known, it seems hardly possible that differences of opinion as to their presence in a given case should exist, yet this is so. We hear it stated that, although true casts are most commonly found in pathological lesions of the kidney, they may be seen in individuals in whom the kidneys are perfectly normal and no other features whatever can

[1] Read before the Medical Association of the Greater City of New York, November 12, 1900.

be found in the urine, as well as in pathological conditions of other organs, and even as coming from the seminal tubules. If this is correct, we do not as yet know what casts really are. The difficulty seems to be in not differentiating between true and false casts. True casts can only be derived from the uriniferous tubules when a pathological condition exists in the kidneys, and are the products of an albuminous and fibrinous exudation from the blood-vessels and of broken-down and disintegrated epithelia from the tubules. With the exception of waxy casts, their structure is the same, whether they are purely hyaline, or contain upon them epithelia from the uriniferous tubules, red blood-corpuscles, granules or fat globules.

Hyaline, epithelial, blood, granular, fatty and waxy casts are the only true casts, the first three being found in acute, the latter three in subacute and chronic inflammations. True granular casts are disintegrated epithelial casts, and we frequently see the remains of epithelia upon them. Such casts, as a rule, are never found until the inflammation has lasted six weeks or two months, although exceptionally, especially in cases of nephritis after contagious diseases, such as scarlet fever and diphtheria, they can be seen in small numbers in the second or third week of the kidney lesion.

Fatty casts are secondary products of previous epithelial and granular casts, the fat globules being secondary changes of the granular protoplasm, and when present in large numbers denote not only chronicity, but also a fatty degeneration of the kidney. Waxy casts, which are chemically different from the other true casts, always indicate a waxy or amyloid degeneration of the kidney, and are found in chronic constitutional diseases, such as tuberculosis and syphilis. It is an error to suppose that such casts have no special significance, can be found in acute inflammations, or even, as stated in some text-books, without any inflammation whatever.

In speaking of epithelial casts, we mean only hyaline casts, containing upon them a varying number of epithelia from the uriniferous tubules, and not simple conglomerations of epithelia resembling casts. So-called pus casts, that is, conglomerations of pus corpuscles, cannot be called casts at all. In epithelial casts the epithelia will be different when the cast comes from the convoluted, the narrow or the straight collecting tubules. The convoluted tubules of the kidney are lined by cuboidal, the narrow tubules by flat, and the straight, collecting tubules by columnar epithelia.

Casts vary greatly in size, the smallest or rather narrowest being those from the narrow or looped tubules; the second size those from the convoluted tubules of the second order or distal convoluted tubules; while the largest come from the straight, collecting tubules. Casts from the proximal convoluted tubules or those of the first order, directly emanating from the tufts, are never found in urine, since they cannot pass the looped tubules. These sizes are undoubtedly of value in determining the prognosis of a given case. When small casts from the narrow tubules are present alone, the case is, as a rule, a comparatively mild one; when a moderate number of casts from the convoluted tubules are found with those from the narrow tubules the case is of moderate severity, while casts from all three tubules, especially a large number of those from the straight, collecting tubules, denote an intense case with a doubtful prognosis.

From what has been said about the nature of true casts, it is perfectly plain that they can never be found in urine without some other evidences of an inflammation, such as pus-corpuscles, red blood-corpuscles and epithelia. Not infrequently, however, we read reports of urine examinations, which state that no albumin is present, pus-corpuscles, red blood-corpuscles and epithelia are absent, but hyaline and granular casts found in varying numbers, and a diagnosis of a parenchymatous nephritis given. If we examine such urine carefully, we will see a small or moderate number of pale formations, which at first glance resemble hyaline casts, but which, if focused sharply, will be found traversed by extremely pale, fine threads, which may become plainly visible only after shading the light to a certain degree. These formations are not true casts at all, but cylindroids or mucus-casts, that is, mucus-threads resembling casts which may be derived from any portion of the genito-urinary tract, such as the bladder, prostate gland or vagina, and are therefore entirely independent of a nephritis. Mucus, normally present in every urine, is always increased in irritations or inflammations, more especially in those from the genital tract.

Although such cylindroids are at times quite long and irregular, tapering to a thin thread, they may be much more regular and then great care must be taken not to mistake them for hyaline casts, the more so since these latter, principally those from the looped tubules, may also be long, somewhat irregular and convoluted. It is, therefore, important to satisfy oneself of the nature of these formations, before diagnosing them as hyaline casts.

Not only are hyaline casts frequently said to be present when they are not, but the same is true of granular casts. It is well known that bacteria of a harmless character are often found in urine, especially in warm weather and in the urine of females. These bacteria can conglomerate upon mucus, and will then resemble granular casts, while in reality we have to deal with so-called bacterial casts only. In such cases mistakes can easily be avoided if the same care is taken as when looking for hyaline casts; sharp focusing will at once tell us that we have no granules, but cocci which have formed into masses. Individual cocci, as well as irregular groups, which are always present in such cases, still further clear up the diagnosis.

Cases in which these mistakes are made are, unfortunately, common, and not rarely perfectly

healthy individuals are told that they suffer from a nephritis. A short time ago, a stout healthy young man, who had never been ill in all his life, and who was refused by a life insurance society on account of alleged presence of albumin and casts in the urine, was sent to the author by his physician for a diagnosis as to the condition of his kidneys, since there were no clinical symptoms whatever, to bear out the diagnosis of a nephritis. Upon examination of the urine, an excess of phosphates was found, but not a trace of albumin, no pus-corpuscles, no epithelia and no casts, though a small number of cylindroids and bacterial casts was present. The only chemical test resorted to in this case had been simply boiling, without the addition of any acid, and in the microscopical examination the absence of any evidence of inflammation was entirely disregarded.

Within the last few years the centrifuge is being considerably used in urinary examinations and mistakes are frequent. Both mucus and bacteria are abundantly found after centrifuging the urine, and cylindroids are met with more frequently. Since the centrifuge presents no advantages over the old method of allowing the urine to stand at rest for six or twelve hours, it should not be used, with the sole exception of examining for tubercle bacilli, which latter are undoubtedly more easily found in centrifuged urine, the centrifuged sediment showing bacteria in larger numbers than non-centrifuged specimens. Pus-corpuscles, epithelia and casts are just as abundant after natural sedimentation, and the errors considerably lessened.

Finally, it should be pointed out that the diagnosis of a nephritis does not necessarily depend upon the presence of casts in the urine, since these are almost invariably absent in interstitial nephritis. Pus-corpuscles, red blood-corpuscles and kidney epithelia are sufficient for a diagnosis, the latter being invariably one-third larger than the pus-corpuscles in a given case, and are the same as those found in epithelial casts. Such epithelia are never voided in health, and if care is taken to look first for pus-corpuscles, which are always the smallest granular corpuscles, mistakes cannot be made.

ACUTE TRAUMATIC MALIGNANCY.

BY WILLIAM B. COLEY, M.D.,
OF NEW YORK.

(Concluded from page 580.)

Case VIII.—Spindle-Celled Sarcoma of the Thigh.—H. M., female, aged thirty-nine years, with good family history. The patient struck the right thigh against the corner of a lounge in December, 1898. The region of the injury continued more or less painful and two weeks later a swelling was noticed which grew rapidly until December, 1899, when it had reached the size of a fist and was removed. There was a local recurrence in February, 1900. This grew rapidly and in June, 1900, was as large as a child's head. It was again removed. Microscopical examination showed the growth to be spindle-celled sarcoma. The disease returned in October, 1900, in spite of local treatment with the mixed toxins, and amputation just below the trochanter was performed on October 24, 1900.

Case IX.—Sarcoma of the Testis.—F. H., aged twenty-seven years; good family history. Was kicked by a horse in the right testis in August, 1896. One week later he noticed a hard, slightly painful nodule in the upper part of the testis. This did not increase in size much until a year and a half later, when he fell through a hayrack, again bruising the same testis. The testis was sore the following day, and one week later the patient noticed a marked increase in size of the old nodule. The tumor continued to grow rapidly, but was practically painless. In four months it had reached the size of a fist. I performed a very radical operation, opening up the inguinal canal and removing the cord beyond the internal ring. Although there was no apparent involvement nor enlargement of the glands, the disease recurred within the abdomen, and the patient died one year later. The tumor was a round-celled sarcoma.

Case X.—Sarcoma of the Groin.—C. D. C., male, aged thirty-nine years; good family history. Received a severe blow in the left groin on the sharp corner of a table. A small lump appeared at the site of the injury almost immediately, and never disappeared. There was but little increase in size during the year following, but at the end of this time it began to grow more rapidly until at the end of six years, it had reached the size of two fists, extending from the root of the penis to the anterior superior spine. It was removed by Dr. Armstrong, surgeon of Cawnpore, India. Although the disease was supposed to have been entirely removed, local recurrence quickly followed and within a few months there was evidence of metastatic invasion of the liver.

Case XI.—Sarcoma of the Upper Jaw.—M. H., male, aged twenty-four years; always in good health until March, 1898, when, while having a tooth pulled, a portion of the jaw was broken off just below the antrum. Two to three weeks later a tumor was noticed in the region of the injury. This increased rapidly in size and a few weeks later it was removed by Dr. J. D. Spencer, of Watertown, N. Y. The tumor proved to be a spindle-celled sarcoma of very rapid growth and high malignancy, closing with a fatal issue within a year. In this case it is possible that the disease existed prior to the injury, although the weight of evidence is against it.

Case XII.—Sarcoma of the Metacarpal

Bone.—B. D., female, eighteen years of age. No history of heredity, and in perfect health upto August, 1890, received a severe blow upon the back of the right hand from a revolving chair in a parlor-car. A slight swelling appeared immediately. At the end of a week, instead of having decreased, it has slowly increased and become very painful. The patient consulted several physicians, but it was regarded as nothing more than a contusion. I first saw her in September, 1890, about six weeks after the injury. The wound then had the appearance of a periostitis, but incision under ether failed to find pus. Shortly afterward a piece of tissue was removed for microscopical examination, and it was found to be an alveolar round-celled sarcoma. A few days later I amputated at the middle of the forearm. Four weeks later there was a general recurrence and death followed six weeks later. This is a striking example of acute traumatic malignancy, because the tumor appeared almost immediately after the injury in a person in perfect health.

Case XIII.—Melanotic Sarcoma of the Thumb.—W. J. W., male, thirty-seven years of age. Perfectly well, with a marked hereditary history of cancer, three of his father's brothers having died of malignant disease, one of sarcoma of the shoulder, the other two of cancer of the tongue. On December 7, 1892, the patient injured his left thumb by getting it caught in a heavy office curtain; it immediately became swollen and painful. The swelling not subsiding, it was lanced on January 15th, and some pus evacuated. It continued red, swollen, and painful, and the root of the nail gradually became dark-colored. On May 15th a piece of tissue was examined microscopically, and found to be melanotic sarcoma, round-celled. The thumb was amputated by Dr. L. L. McArthur, of Chicago, on June 6th. Subsequent history: October 1st, a small, subcutaneous recurrence appeared in the forearm. Others followed in quick succession; during the next year more than 200 similar tumors were removed. The patient died in December, 1895.

Case XIV.—Sarcoma (Cylindroma) of Breast.—S. B., fifty-five years of age. Mother died of cancer at the age of sixty-seven, and grandmother died of a cancer of the uterus. The patient received a severe blow to the right breast in August, 1893, falling forward in an omnibus against the sharp end of an umbrella. One week later she noticed a contraction in the tissues at the site of the injury. Five or six weeks later a small bloody discharge appeared at the nipple. The induration and discoloration slowly increased, and in the following February, or five months later, the entire breast and axillary glands were removed. Recurrence quickly followed. During the next two years five or six other operations were performed for small local recurrences. Death followed shortly after an operation in August, 1896.

Case XV.—Sarcoma of the Breast.—M. M., female, aged thirty-one years, unmarried, with good family history, struck her breast against an iron bracket while acting as clerk in a dry-goods store. She noticed a swelling immediately after the injury, and this continued to increase in size. Five months later the tumor was removed by operation, recurrence quickly following; four months from the first a second operation was performed. The patient died eighteen months after the injury, from a supposed recurrence in the brain, five operations having been performed in the meantime. This case was operated upon by Dr. B. Gallaudet and Dr. William T. Bull; it was not seen personally by myself. It is of interest as it has an important bearing on the following case:

Case XVI.—Sarcoma of the Breast.—A. M., female, aged thirty-one years, a sister of the preceding case. The patient had always been in perfect health until August, 1896, when she received a blow upon the right breast. A few days afterward she noticed a lump at exactly the site of the injury. This grew rapidly, but it was not painful until November. In December, 1896, it became exceedingly painful and was growing with great rapidity. She consulted a physician, who advised internal treatment. On February 8, 1897, I saw her in consultation with Dr. William T. Bull. At this time the entire right breast was occupied by a spheroidal tumor about the size of a large cocoanut, markedly protuberant, slightly fixed to the chest wall, not involving the axillary glands. The skin was thin and glossy, and of a deep purple color over the most protuberant parts. The tumor grew with enormous rapidity and soon began to slough. The patient died of exhaustion in April, 1897, or seven months after receipt of the injury. It is of interest to note that in these two sisters the sarcoma developed immediately after an injury in both cases, the tumor occupied the right breast in both instances, and both were just thirty-one years of age at the time when the tumor developed.

Case XVII.—Sarcoma of the Femur.—J. N., female, aged eleven years, with good family history, had always been perfectly well until February, 1897, when she fell down a flight of stone steps striking upon the left knee. Pain and swelling immediately followed and continued over the outer condyle of the left femur. This grew rapidly and soon began to affect her general condition. Examination on July 28, 1897, or five months after receipt of the injury, showed the lower end of the right femur greatly enlarged, its circumference being sixteen inches while the corresponding measurement on the other side was ten inches. I amputated at the hip-joint on July 31st, at the Post-Graduate Hospital without previous exploration. The patient made a good recovery.

Microscopic examination showed it to be a spindle-celled sarcoma.

Case XVIII.—Round-Celled Sarcoma of the Testis, Following Bicycle Injury.—G. S., male, twenty-nine years of age, with good family history, always perfectly healthy, received an injury to the left testicle from a bicycle fall in August, 1896. A swelling appeared in the testis in September and increased rapidly in size. The first operation was performed in June, 1897, by Dr. Millbank of Albany. Speedy recurrence in the cord and inguinal glands followed. Four operations have been since performed, two by myself, The erysipelas toxins were tried for three or four weeks without effect. The tumors recurred and the patient died a few months later.

Case XIX.—Round-Celled Sarcoma of the Testis Following Bicycle Injury.—E. K., male, twenty-two years old, good family history, previously in perfect health. On attempting to learn to ride a bicycle, July 1, 1896, he fell and injured the left testis. Within one week after he noticed an increase in size; the increase continued, but the growth was not painful. In August, 1896, it had reached the size of a fist. In May, 1897, the patient was operated on and the tumor removed. Recurrence followed in May. A second operation was performed in June, 1897. There quickly followed abdominal recurrence; the patient lost flesh and strength very rapidly, and died early in October, 1897. Autopsy showed nearly all the abdominal organs extensively involved. After generalization had occurred the erysipelas toxins were tried ten days with little effect; only very small doses could be borne.

Case XX.—Sarcoma of the Axilla.—P. W., female, aged twenty-seven years, with a good family history, cut her hand upon a flower-vase three years ago. The hand was kept bandaged for two weeks. During this time a lump appeared in the axillary gland of the same side. This lump never disappeared, but slowly increased in size and at times was quite painful. Later on two other similar tumors appeared, and finally the three coalesced, forming one, the size of an orange. In January, 1896, the patient was operated on by Dr. A. J. McCosh, of the Presbyterian Hospital. It was found impossible to remove the entire tumor. The growth subsequent to the operation was exceedingly rapid, and the tumor soon involved the clavicle and portion of the scapula. Microscopic examination showed the tumor to be round-celled sarcoma. (This case can hardly be classed as a result of direct trauma.)

Case XXI.—Sarcoma of the Parotid.—W. M., male, fifty-six years of age; farmer; had always been well; no history of heredity. In the latter part of July, 1895, he received a blow in the right parotid region from a horse's head, the horse turning suddenly, while he was standing near him. One month later a small tumor, about the size of a hazel-nut, appeared at the site of the injury. This was removed under cocaine on October 6th. The tumor recurred almost immediately. A second operation was performed the last of October. On November 13th the tumor had recurred again, and reached the size of half an egg, involving the soft parts in the region of the parotid, but was not attached to the bone. A very thorough removal was made under ether anesthesia, but in spite of this in less than three weeks the tumor had recurred, and reached the size of half an orange. Microscopic examination showed the growth to be made up of mixed (round and spindle) cells, the round predominating. He was treated with the mixed toxins of erysipelas without result. This case is important as the tumor appeared within a few weeks after receipt of the injury. Four operations were performed within the following four months, showing a very high degree of malignancy.

Case XXII.—Round-Celled Sarcoma of the Femur.—Periosteal.—H. G., male, twenty-six years of age, with good family history, first noticed a swelling in the lower end of the femur in September, 1895. He had sprained his knee two months before while attempting to separate two large dogs engaged in a fight. The lameness and stiffness appeared at once, and it remained until the tumor was noticed, a few weeks later. Exploratory incision showed the tumor to be round-celled sarcoma, and a few days later amputation of the leg at the hip-joint was performed by Dr. William T. Bull. The tumor recurred in the stump and pelvis in March, 1896, and the patient died about five months later.

Case XXIII.—Osteosarcoma of the Lower Jaw.—H. D., female, aged thirty-eight years, received a slight injury to the lower jaw in June, 1893. Two weeks after the injury a swelling appeared at the site of the injury in the region of the first molar tooth; there was little pain. The tumor gradually increased in size, and in November was removed by Dr. A. Vandeveer, of Albany, a portion of the jaw being resected. About three months later the tumor recurred, soon involving nearly all the structures on the left side of the face.

Case XXIV.—Spindle-Celled Sarcoma of the Foot (Metatarsal Bone).—F. K., female, aged sixteen years, in 1888 had a fall, injuring the right foot. Shortly afterward two lumps appeared on the foot in the region of the injury, and in 1889 the patient was operated upon in the New York Hospital, by Dr. William T. Bull. The third and fourth metatarsal bones were removed. Three years later she received another injury of the foot, and a short time afterward a recurrence was noticed. Syme's amputation was then performed by Dr. Bull. In 1893 she fell downstairs, injuring the stump, and shortly after this a lump appeared on its outer aspect and slowly increased in size.

Soon afterward a tumor appeared in the popliteal space, and grew with great rapidity, until, in December, 1893, it had reached the size of a child's head, and was then removed by Dr. Bull. The small tumor in the stump was treated by Dr. Bull and myself with the mixed toxins of erysipelas, with the result of entire disappearance. About one and a half years later there was a return in the same locality, and in 1896 I amputated the leg just above the middle of the thigh. There have been two recurrences in the gluteal region, which have been removed by operation. The patient has had the toxins administered at intervals during three years. She is at present, March, 1901, in good health.

Case XXV.—Round-Celled Sarcoma of the Tibia.—S. L., female, twenty-four years of age; family history good; previous personal history contained nothing worthy of note. In 1895 the patient fell downstairs and injured the upper part of the right tibia. A swelling in the region of the injury quickly followed and was accompanied by considerable pain. The trouble slowly grew worse. For a number of months it was treated as a periostitis and later was regarded as an osteitis. The swelling slowly increased as well as the pain. A portion of the growth was removed for microscopic examination. The latter proved it to be a round-celled sarcoma. On August 27, 1896, I amputated at the junction of the middle and lower thirds of the thigh. (In this case the tumor developed immediately after receipt of the injury.) She was alive three years after operation.

Case XXVI.—Sarcoma of the Kidney.—J. C. S., male, aged fifty years; German; perfectly well until March, 1893, when he fell down a flight of stone steps severely injuring the back just over the right kidney. About six months later hematuria developed. On the 1st of December of the same year a tumor could be made out in the region of the right kidney; operation was performed by Dr. F. Lange. The kidney was removed, the pleural cavity opened, and a portion of the twelfth rib resected. The patient was in the hospital for six weeks. He remained perfectly well for nearly four years after that, till March, 1897, when he had an attack of grip, which left him with some bronchial irritation. In May, 1897, while taking a cycling trip, he had slight dyspnea and considerable pain in the region of the old cicatrix. On July 5, 1897, a swelling was first noticed in the region of the old scar; this rapidly increased in size until November 24, 1897, when physical examination showed a tumor in the right lumbar region, extending from the crest of the ilium upward to the free border of the ribs, a distance of five inches. Transverse semicircumference of the tumor is six inches. The tumor occupies the site of the kidney, projecting somewhat beyond the level of the surrounding tissues, and is fairly well fixed. The skin over it is normal in appearance and not adherent. The patient has lost about ten pounds in weight and is in fairly good condition. There is no clear evidence of invasion of the pleural cavity. The erysipelas toxins were tried three weeks without result.

Case XXVII.—Melanotic Sarcoma of Foot.—J. H., female, aged thirty years; family history good. Had had a small movable swelling about the size of a dime on dorsum of left foot since childhood. It was not dark-colored and caused no inconvenience, until about three years ago, when the patient met with the following injury: While walking over a sidewalk undergoing repairs, her husband, preceding her, stepped upon a loose plank, causing the rear end to rise up two or three inches. Against this plank she struck her left foot, and shortly after, a week or two, she noticed the small lump was increasing in size. In a few months she had to get larger shoes, and the lump began to grow dark-colored. Ten months ago a tumor appeared in the groin, and this increased more rapidly than the tumor in the foot. She was admitted to the New York Hospital November 15, 1897, and the tumor of the foot was removed by Dr. Bull. The tumors of groin and pelvis were inoperable. The microscopic examination showed the growth to be a spindle-celled melanotic sarcoma with a great abundance of pigment. Dr. Bull transferred the case to my service at the New York Cancer Hospital for a trial of the mixed toxins. The patient was weak and had a daily temperature of 102° or 103° F., and only small doses of the toxins were given for two weeks. No effect was visible on the tumors. Two months later she developed spinal paraplegia.

Case XXVIII.—M. C., female, aged fifty years; family history good. Patient had had a small, dark-colored congenital mole on outer aspect of left leg since infancy. In June, 1897, she scratched this, causing it to bleed. Almost immediately afterwards it began to grow. A short time later the tumor was excised. Speedy recurrence followed, both locally and in the upper portion of the thigh. The tumors grew with great rapidity, and on February 1, 1898, were entirely beyond operation. They were deeply pigmented.

Case XXIX.—Multiple Sarcoma.—M. F., female, aged forty-six years, with good family history, had a congenital mole upon the neck. This remained stationary until eight years ago, when it was scratched. It immediately began to increase in size, and when about as large as a hickory-nut, an attempt was made to remove it by a silk thread. Five years later a hard lump formed underneath the scar and grew slowly. This was thoroughly removed by operation. One year later a tumor developed in the axillary region on the same side. Two other tumors soon after appeared in the left buttock, one growing rapidly, the other re-

maining stationary. In August, 1895, there was a tumor, the size of a fist, just under the right breast attached to the skin, but apparently not connected with the breast gland; it was of a deep purple color. In the left buttock there was a similar tumor about the size of a cocoanut. This was probably a melanotic sarcoma.

I would like to mention, briefly, two histories of acute traumatic malignancy in carcinoma of the breast:

Case XXX.—Sister M., aged sixty years, in February, 1898, received a severe blow on the right breast from the elbow of a patient. She stated at the time, she knew this would result in cancer. Within four to five weeks she noticed a swelling at the site of the injury, together with sinking in of the nipple. The indurated area at this time was three inches in diameter. There was a feeling of heat in the region, but no pain. The tumor increased with great rapidity, and on October 9th, or about six months after the disease was first noticed, it had reached the size of a child's head, the skin over the entire area being indurated and infiltrated. The tumor was clearly inoperable. She was seen in consultation by Dr. Wm. T. Bull and the clinical appearances showed that the tumor was unquestionably carcinoma, although no microscopical examination was made. Curiously enough she stated that her first cousin had died of cancer of the breast, developing soon after a blow which she received from striking against the corner of an embroidery frame.

Case XXXI.—The following case, aside from the fact of its traumatic origin, is the only one I have observed of so-called disseminated schirrous or acute miliary carcinosis. Mrs. R., thirty-seven years old, married, born in Germany, without any history of heredity, received a hard blow upon the right breast from a bed-post in October, 1897. A few weeks later, she noticed a reddish discharge from the nipple of the injured breast. Shortly afterward she observed a hard lump at the site of the injury. This grew very rapidly, and in four months was as large as two fists. Not only was the entire breast involved in the disease, but the skin over the breast and a considerable area beyond was filled with typical, multiple carcinomatous nodules about the size of a split pea. The disease quickly extended to the other breast, and a few months later the skin over both breasts and the tissues over the entire front of the thorax were involved. The disease ran a rapid course, and the patient died eight months from the time the tumor was first noticed.

New Smallpox Pavilion.—A new smallpox pavilion will be built on North Brother Island. The building will be of frame construction, and will cost $10,000, according to the estimate of the architects.

EPISTAXIS.[1]

BY CHARLES N. COX, M.D.,
OF BROOKLYN, N. Y.

Etiology and Pathology.—Epistaxis, or bleeding at the nose, is in most cases a comparatively trivial affair. But it may involve grave danger to health or even to life itself. It may arise from some systemic condition or, what is most frequent, be due to some local morbid condition within the nasal cavities.

Some of the general conditions which may cause bleeding from the nose are, plethora, anemia, the hemorrhagic diathesis and organic disease of the heart, liver, or kidneys. It occurs in certain acute diseases, especially typhoid fever. Classical descriptions of the latter disease usually include epistaxis as one of its initial features.

But it should ever be borne in mind that the majority of cases of nasal hemorrhage are due to some intranasal lesion; and that the ultimate cure of such cases is dependent upon a localization and removal of the lesions. These may be due to traumatism or to some diseased condition within the nasal cavities.

The most frequent injury which gives rise to epistaxis is a blow or fall upon the nose. In such a case, some of the minute vessels of the mucous membrane lining the nose are ruptured, as a result of the violence of the concussion. If the blow be heavy enough, fracture may ensue, in which event hemorrhage may be very severe. Traumatism due to operation within the nasal cavities is almost invariably followed by hemorrhage. But it is usually controlled without difficulty. The most frequent seat of hemorrhage due to local causes is the triangular cartilage of the septum, just within the vestibule. This is very easy of access; the bleeding-point can be seen without difficulty and the means of arresting hemorrhage are easily applied. When bleeding occurs in this locality, it is totally unnecessary to pack the whole nostril, which is so often done—even to the extent of applying plugs posteriorly.

A very common cause of bleeding from this area is a deviation or spur of the septum so situated that the column of air in breathing causes undue dryness and discomfort, the result being that the patient is impelled to blow the nose inordinately, or even to pick the nose to remove the little crusts that form on the mucous membrane. This violence gives rise to superficial abrasions, minute vessels are ruptured and bleeding follows. In the course of time, these abrasions deepen to ulceration, nutrition is impaired, and sometimes the septum is actually picked through and a perforation results.

Varicose enlargement of the veins of the septum is a cause of severe hemorrhage occasionally. I have seen a few cases of minute angiomata, also, that bled violently, upon rupture. In one case that I saw in consultation the patient was almost exsanguinated, in spite of anterior and

[1] Read before the Queens-Nassau Medical Society, Oct. 30, 1900.

posterior plugging performed by the attending physician in a most perfect manner. Upon removing the plugs and mopping out the nasal cavity, I easily discovered the point of rupture, through which blood was spurting in a stream about the diameter of a small pin, with such force as to strike the turbinated body opposite.

Tumors may cause hemorrhage, but intranasal growths, fortunately, are comparatively rare, with the exception of mucous polypi and these seldom bleed. Of all the intranasal growths, sarcomata and fibromata are most apt to give rise to hemorrhage. Bleeding from the nose in children may sometimes be caused by lymphoid hypertrophy at the vault of the pharynx, or adenoids. But nasal hemorrhage from this source is seldom, if ever, severe. Vicarious epistaxis sometimes takes place in women at the time of the menstrual period, and is usually considered salutary when the flow of blood is not too great.

Treatment.—In the treatment of epistaxis, the first thing that demands our attention, no matter what the cause, is the immediate control of the hemorrhage, provided the flow is excessive and not accomplishing any good purpose. To do this intelligently, it is of importance to find, if possible, the spot from which the bleeding arises. This object cannot well be accomplished without good light and proper means of dilating the nostrils and illuminating the nasal cavities. To effect this, it is only necessary to employ the ordinary forehead mirror, a nasal speculum of some sort and a candle or lamp. Diffused daylight is usually not sufficiently powerful to illuminate the nasal cavities to the degree that is necessary for diagnostic purposes.

Unless bleeding has actually ceased when the patient is seen—in which event it is sometimes well to wait and see if Nature has not already controlled the flow by means of the clots which have formed—the bleeding nostril should be cleared by gentle blowing, followed by mopping with absorbent cotton on the end of an applicator. In a large proportion of cases, the source of bleeding can thus be seen, and it only remains to place some sort of a tampon over the leak in such a manner as to be retained in place and to make firm pressure. For the more severe forms of bleeding, local syptics are of little or no avail and should not be relied upon when we have at our command the more rational means of mechanical pressure.

Should the hemorrhage be so profuse as to well out so copiously as to defy any attempt to locate its origin, it may become necessary to resort to guess-work and plug the whole nostril. To accomplish this I prefer to use long strips of plain, sterile or iodoform gauze, about ½ inch or ¾ inch in width, passing one end of the strip through the nostril, by means of delicate forceps or probe, almost to the posterior pharyngeal wall, and then introducing successive instalments until the whole cavity is filled from behind forward. This, if properly done, will generally arrest hemorrhage from any portion of the nasal cavity and preclude the necessity of posterior plugging, which is, at best, almost intolerably painful to the patient and at times fraught with considerable danger to the Eustachian tube and middle ear.

I have seldom found it necessary to introduce posterior plugs. If necessity demand their application, it may be done in the following manner: First, prepare the tampon by taking a piece of gauze or absorbent cotton of sufficient size, so that when it is properly folded it shall be about 1¼ inches long and ¾ inch in diameter. Tie firmly around its middle a stout cord or silk ligature, leaving two free ends, each about fifteen inches long. Next, secure a thread or silk ligature ten or twelve inches long to the eye of a soft catheter. Pass the catheter along the floor of the nose and push it gently backward until it appears below the soft palate. Grasp the thread with a pair of forceps or hook, and draw it out of the mouth. Secure it to one of the tampon cords. Then withdraw the catheter and its thread from the nose. When the free end of the tampon cord appears at the anterior naris, make traction upon it, and draw the plug up behind the soft palate, assisting the operation by placing the index finger in the nasopharynx, and guiding the plug to its place over the posterior naris or choana. The cord hanging out of the mouth should be led to the ear and secured there, to facilitate removal of the tampon when the time comes. The cord in the nose should likewise be secured in some suitable manner, so as to prevent the plug from slipping out of place. The nasal cavity should then be filled with gauze in the manner heretofore described.

Rubber finger-cots have been recommended as an aid in packing the nose. One is to be passed well within the nasal cavity with a probe, and then filled full of cotton or strips of gauze. It might be possible to tie the open end with a ligature, and then distend the cot with air or water. These cots are usually about two inches long; therefore, pressure cannot be exerted beyond this distance.

Bernay's sponges of compressed cotton are also used for tamponing the nose. Their expansion incident to absorption of moisture is considerable; so that they exert strong pressure. A special form is made for application within the nasal cavities, but the ordinary ones also do very well for this purpose.

The patient should now be kept perfectly quiet, in a semirecumbent position. If the bowels are not moving freely and the subject be of full habit, a saline purgative may be administered with advantage. Under certain conditions, it may be proper to give ergot internally—say 10 to 20 minims of the fluid-extract, every two or three hours; or gallic acid, in 10- to 20-grain doses.

In the milder forms of epistaxis, some local astringent, styptic or caustic application may suffice to stop the bleeding. While alluding to styptics, I wish to utter a very strong protest against

the use of that time-honored abomination, Monsell's solution of the subsulphate of iron. It is one of the most powerful of styptics, hence the temptation to use it, but it forms hard, plaster-like coagula, which are either removed with difficulty or remain for some time afterward within the nasal cavity, frequently causing suppuration and sepsis.

As an application to the bleeding-point, when it can be seen, the solid stick or a fifty-per-cent. solution of silver nitrate may be used, either as an adjuvant to mechanical pressure, or alone, if it control the hemorrhage. A few crystals of chromic acid may be used in the same manner. Particular care must be taken in the employment of the latter agent, especially that the blood does not spread it over a large area and cause too extensive cauterization.

The electro-cautery is a most effectual means of arresting hemorrhage. It is, however, not usually accessible when needed. Its use is allowable when applied carefully to the bleeding-point only.

One of the most powerful vasomotor stimulants of the dried extract of suprarenal capsule. This property of vascular contraction makes the remedy a very useful one for the control of nasal hemorrhage. It may be applied to the bleeding surface in the form of the powdered extract; or, better still, as a spray. The solution should be freshly prepared, as it readily decomposes. It can be made in the following manner:

℞	Extract suprarenal capsule....	gr. xx.
	Glycerin	ʒ j.
	Aquæ	ʒ iij.

Misce. Macerate for one half hour. Filter and then boil the solution for a few minutes to sterilize it.

The glycerin is added for the purpose of prolonging the period of preservation only, and may be omitted.

A twenty-per-cent. solution of ferropyrin in water is one of the cleanest and best astringent and styptic applications of which I am cognizant. It may be sprayed freely into the nostril without fear of harm. Antipyrin, on account of its contractile effect upon capillary vessels, acts with desiderable efficiency in producing and maintaining an ischemic condition of the nasal mucous membrane. A four-per-cent. aqueous solution may be used for this purpose. Alum is another clean and eligible astringent, which may be applied in solution, dr. 1 to 2 in oz. 4 of water. Finally, peroxide of hydrogen is an hemostatic of considerable value in capillary hemorrhage.

The list of local astringents and styptics which have been employed in epistaxis is a long one. But the ones above enumerated are those I have found, in my experience, to be the best and most reliable. I might also mention another agent of considerable value, namely, cold, which may be applied by means of ice over the nose, or small pieces introduced within the nostril; or by instillation of ice-water.

If attacks of bleeding from the nose are at all frequent, considerable blood may be lost in the aggregate, even though the hemorrhage be rather insignificant at each recurrence. It is, therefore, of importance, if the cause of bleeding be related to some morbid condition within the nose, that steps be taken in due time to remove the abnormality, if possible. The limits of this paper, however, will not admit of a consideration of the methods best adapted to the accomplishment of this object.

MEDICAL PROGRESS.

Fallacies of Therapeutics.—Traditions of the past often give false reputations to drugs and it is with difficulty that the medical profession is induced to give up a time-honored remedy even when proven to be inert. G. L. PEABODY (*Med. Rec.*, Mch. 30, 1901) reviews a number of the ordinary mistaken ideas in regard to therapeutics. The action of bitters in whetting the appetite is probably largely, if not entirely, due to the alcohol contained in the vehicle used. The idea that a person is temperate in the use of alcohol because he never has been drunk is a serious mistake some times made by the physician, for it is the steady moderate drinker who first shows the degenerative evidences in his heart, arteries, stomach, liver and kidneys. Boric acid has enjoyed a very variable career having been used for more than a hundred years as a common internal remedy. As an antiseptic it has very little power, being useless to disinfect wounds, hands or instruments. In deep wounds where sublimate and carbolic are changed by contact with the tissues, strong solutions of boric acid are often very efficacious. To control hemorrhage indirectly through the circulation, tannic acid is valueness, for it is always changed into an inert albuminata before being absorbed. Ergot causes a rise in pulmonary blood pressure, but is frequently given to control hemorrhage. Potassium iodide has been most recklessly given, probably because our knowledge of its action is so uncertain. Outside of its action in specific troubles and in lowering arterial tension its field of usefulness is probably not very wide. Creosote, so freely and frequently given in tubercular conditions of the lung, probably exerts no other influence than to improve intestinal digestion and thus benefit nutrition. In the matter of gaseous disinfection most substances have so little penetrating power that they are comparatively useless. Formaldehyd is the best. Scrubbing with antiseptics, or even rubbing the surfaces with bread crumbs, is doubtless more efficacious.

Local Aural, Nasal and Buccal Anesthesia. A. A. GRAY (*Lancet*, Mch. 9, 1901) states that as a means of avoiding cocaine intoxication, of deepening and prolonging the anesthesia and

of facilitating general operative rapidity and convenience, he has found the following procedure very useful. A twenty-per-cent. solution of cocaine hydrochlorate is made in rectified spirit and a twenty-per-cent. suspension of beta-eucaine in anilin oil. In the latter about one-half of the eucaine settles to the bottom, necessitating shaking well before using. After preparing the field for application ten drops of each solution are taken, mixed and well shaken. The resulting turbid, milky solution soon clears up, and contains ten per cent. each of cocaine and beta-eucaine and fifty per cent. each of rectified spirit and anilin. In the nose the mixture is applied on a pledget of cotton and rubbed in as well. In the ear a few drops may be instilled into the canal or, better, gauze soaked in it may be placed over the field through a speculum. In the mouth and pharynx the rubbing or painting on is all that is necessary. There are two difficulties—first, in the nose, the solution at first burns considerably; second, in children, the dose must be modified. A good rule is to use a total of twenty drops of the mixture for adults and in proportion to that amount for children. Its acme of activity is present within about seven minutes.

Indicanuria and Oxaluria, and Gastro-Intestinal Fermentation.—J. A. Wesener (*Jour. Am. Med. Assoc.*, April 6, 1901) discusses the relation of indicanuria and oxaluria to gastro-intestinal fermentation very thoroughly and cites the opinions of numerous investigators as to the meaning and importance of the presence of indican and oxalic acid in the urine. He gives in detail the method of determining indican in the urine, and also the method of determining the presence of oxalic acid. Wesener has arrived at the following conclusions: (1) Traces of oxalates are found normally in the urine, having been taken in with the food; (2) oxalate crystals usually denote gastro-intestinal fermentation. Food rich in oxalates must be excluded; (3) abundance of oxalate crystals does not signify high acid percentage, because in addition there may be oxalate of lime in solution; (4) indican is often, but not necessarily, associated with oxalate crystals; (5) hyperacidity on a meat diet contributes to putrefaction, whether due to excess of hydrochloric acids or acids of fermentation; (6) in certain disturbances of the gastro-intestinal tract due to excess of hydrochloric acid or to excess of fatty acids, in which there is fermentation, indican and oxalic acid are increased; (7) the symptoms of oxalic acid diathesis associated with indicanuria are not due to the oxalic acid nor to the indol, but to other products formed in the process of fermentation, and therefore the oxaluria and indicanuria are valuable as indicative of a putrefaction, to which the symptoms are to be referred. The study of oxaluria and indicanuria holds open a rich field for investigation. In the intestines there are various poisonous bodies produced directly associated with the formation of oxalic acid and the aromtics. These, when better understood, will lead to new ideas, thereby giving one a better understanding of chronic disease such as rheumatism, gout, etc.

New Method of Treating Fractures.—Leonard F. Hatch (*Bost. Med. Surg. Jour.*, March 28, 1901) describes a new method for treating fractures of all kinds, based upon modern surgery. The principles upon which he has based his treatment are to convert all compound fractures into simple ones, and to operate on simple fractures, making them compound, and then apply the first principle, making them simple. Fractures treated by this operative method are practically free from all pain, as both the sharp spiculæ of bone sticking into the soft parts and the swelling are avoided by the operation. In a compound fracture the wound is simply enlarged, while in simple fracture there is a point of selection for the incision. There must be the most perfect antiseptic preparation. Elevate the limb and apply a rubber constrictor. Fit a sterile posterior and anterior splint of any suitable material. The points of selection for incision are for the tibia along the crest, for the femur along the outer side of the thigh, for the radius behind the supinator longus, for the ulna along the ulna side of the arm where the bone is most superficial, for the humerus along the outer side of the arm. A good free incision should be made, all clots and *débris*, such as shreds of tissue and loose pieces of bone, should be washed out, and all bleeding points tied. Be sure that the wound is dry, and see that coaptation is perfect. Apply one of the splints before closing the wound, close the wound with catgut sutures without drainage, lay a thin pad of gauze over wound and apply the other splint and bandage quite firmly. Remove dressing on seventh or eighth day and apply ambulatory splint or plaster cast. Hatch reports in detail fifteen cases illustrating the advantages of this method of treatment, and formulates the following deductions: (1) We should not be deterred from operating on fractures by fear of sepsis, and it certainly is unscientific to adopt a blind way when a better presents; (2) it would be warranted if it did nothing more than to relieve the pain and swelling, which it certainly does; (3) it shortens the repair process about one week; (4) it reduces the chances of deformity and non-union to a minimum. The writer considers the ambulatory splint the best dressing for fractures of the leg.

Radioscopic Plate Study.—K. Ludloff (*Centralbl. f. Chir.*, 1901, No. II.) says that for years at the Königsberg Surgical Clinic for the public demonstration and study of radioscopic pictures, the negative has been found advantageous. If the audience is a large one they have used the skiopticon and reduced diaposi-

tives. Very recently the Hirschmann apparatus for the demonstration of the original plate had been most serviceable. Its details are, in brief, a box with a light portable stand, within which a star of electric lamps and several mirror plates cast the light upon a dark plate of glass. Before this rather evenly and diffusely illuminated plate the radioscopic plate is placed in frames. In a dark room, with the light toned down to suit the thickness of the plate, this method brings out many wonderful details. He has found that a sharp first-class opera-glass is a remarkable aid in studying the negatives illuminated in this way, with the observer three to ten meters away. Radiographs of large parts of the body, as pelvis, abdomen, vertebral column, etc., are reviewed as wholes much more easily without being confused by details. In the absence of this special Hirschmann appliance, the negative can be placed in a frame before a window (northern exposure always) and with the aid of curtains a good view can be had. Reduced diapositives can be advantageously studied in the same way with a common reading glass in the ordinary dark finishing room.

Inoperable Cancer.—G. R. LEIGHTON (*Brit. Med. Jour.*, March 16, 1901) states that the treatment of cancer which is beyond the limits of surgical aid is a great problem to the general practitioner and the surgeon alike. He has found in his cases, for example, that the three troublesome symptoms hemorrhage, foul discharge and pain will yield well to the following management. Bleeding is easily commanded by fluid extract of ergot internal and by ergotin hypodermatically. The disgusting foul-smelling discharge is obviated by washings and wet dressings of some antiseptic and deodorant. None is better than carbolic-acid solution, about 1-40 strength. Pain in the early days will decrease or vanish with chloral hydrate and morphine, but these soon loose their influence. Opium in the form of the tincture is by far the most efficacious, permits of unconscious administration and in steadily increasing dose will give the patient hours of continuous respite from pain and refreshing sleep. When the dose begins to be *ounces* by the day, tincture of belladonna is a valuable adjuvant. In one patient of his in two years' treatment by the above plan he controlled all three symptoms, finally giving nearly *400* grains of opium in twenty-four hours.

Benzin in Surgery.—F. FRANKE (*Centralbl. f. Chir.*, 1901, No. II.) says that for years in private and hospital practise he has without known disadvantage used benzin as a substitute for ether wherever the latter is used externally. The manifest gains are that benzin is very cheap, is equally active in dissolving off dirt and fat from the skin, does not cause disagreeable chill of the skin by excessively rapid evaporation, will not nauseate the recently-anesthetized patient by its odor, is a very good solvent for rubber plaster, the removal of which is so painful to some patients, does not cause excruciating pain or abrasions and cuts and is no more inflammable than ether. General use of it for such purposes is worthy of the attention of all.

Creosote in Pneumonia.—For several years I. L. VAN ZANDT (*Med. Rec.*, Mch. 30, 1901) has been using creosote as early as possible in cases of pneumonia and believes that it has almost a specific action in many cases especially those due to the pneumococcus. At first he gave a combination of ammonium salicylate, gr. vijss, creosote gtt j, syrup. ʒj, every three hours. Latterly he has used creosote carbonate, grs. vijss, emulsified with acacia or even larger doses every three hours. Within two days the temperature is frequently down to normal with amelioration of symptoms, but if the drug is then discontinued the temperature usually rises again and the symptoms return. Several noted clinicians have reported similar results from the use of this drug, especially when used in the early stage.

Carcinoma Colli Uteri.—O. VON FRANQUÉ (*Zeitsh. f. Geburtsh. u. Gynaek.*, B. 44, H. 2) states that the explanation of the fact that metastases of these growths usually appear in the parametrium beside the cervix earlier than in the body of the uterus lies in the arrangement of the lymph vessels and the direction of the lymph current. The small channels of the portio vaginalis run upward and outward, those of the middle horizontally outward and those of the upper part of the cervix downward and outward to the lateral borders of the cervix. The existence of valves in addition to this arrangement of the trunks as a rule spreads the disease laterally, while it passes upward only by simple contiguity. The bearing of this upon treatment is manifest.

Ether Narcosis.—W. REINHARD (*Centralbl. f. Chir.*, 1901, No. II.) says that certain of the unfortunate pulmonary sequelæ of ether narcosis, as bronchitis and pneumonia, are attributable to the excessive mucous secretion throughout the respiratory tract. In the Diakonissen-Krankenhause at Kaiserwerth they have found such hypersecretion to be almost habitually prevented by giving atropine sulphate hypodermatically about an hour before the beginning of the anesthetization. In addition to quieting the mucous membranes the drug is a lasting cardio-respiratory stimulant, which only adds to its indication as a prophylactic of postoperative sequelæ. Morphine may or may not be added.

Acute Gastro-Intestinal Paresis.—O. VON HERFF (*Zeitschr. f. Geburtsh. u. Gynäk.*, B. 44, H. 2, 1901) formulates the management of these severe acute postoperative dilemmas in the following terms. Prophylaxis consists in great care in the preparation and operation of chronic gastric conditions. The vomiting due to the anesthetic must be checked promptly

by any means approved, and best of all by lavage. This same means is of value in the beginning of the actual paralysis. The appropriate use of nutritive and stimulating enemata is very valuable. Faradization of the stomach is excellent. To combat the great thirst, stimulate diuresis and support the circulation, give normal salt solution enemata or better still infusions up to one to one and a half liters in twenty-four hours. Some authorities try the knee-elbow position. The best is the abdominal position with the hips well elevated.

Enteric Fever in Childhood.—Children commonly have an atypical temperature range, usually with step-like ascent in the first week, level but with morning remissions in the second week, and a gradual or sudden fall in the third week. W. L. Stowell (*Archives of Pediatrics*, April, 1901) found apathy, mental dulness, or headache common and epistaxis especially so, though Vogel speaks of it as rare. The compressible and non-resistant pulse are diagnostic before dicrotism or intermittence supervenes. Leucocytes and erythrocytes are both diminished. Tympanites is less frequent than in adults; gurgling at the ileocecal valve is common. One-third of the cases had diarrhea, many had tender large spleen, albuminuria was rare. The complications noted are varicella, parotitis, bronchitis, pneumonia, intestinal hemorrhage (very rare), and perforation. There were three relapses in seventy-seven cases. Give milk diluted with vichy, seltzer, or lime-water, as a diet, and if the fever is high partly peptonize it. If no diarrhea, add bouillon, broths, and meat-juices. Custards, gelatin, and egg beaten in milk may be allowed, also lemonade, iced coffee or cocoa and ice-cream. Supply liberally with water. During the first few days calomel gm. 0.006 (gr. $^1/_{10}$), every hour as a laxative, and salol, as an antiseptic, are indicated, also citrate of magnesia. During the third week strychnine, digitalis, camphor, ammonia or coffee will stimulate the heart. Liquid peptonoids furnish alcohol combined with food elements. A Dover's powder quiets delirium, and older children may have morphine, gm. 0.02 (gr. ⅓), with camphor, gm. 0.03 (gr. ½). Baths are not usually well borne, but sponging is good. Chloride of lime, gm. 2.50 (℥viij) in 4 liters (one gallon) of water makes a stock disinfectant of which 30 gms. (℥i) in 4 liters (one gallon) of water may be used for excreta and soiled linen.

Diabetes Mellitus.—In reviewing the early symptoms of diabetes, H. S. Stark (*Med. Rec.*, April 6, 1901) mentions the periodic headaches in obese subjects over thirty-five years of age, extreme and lasting fatigue after a short but violent exercise, and prolonged fatigue after slight exertion. Also slowly failing vision in the aged or quickly failing sight in the young, certain signs referable to the mouth such as acid saliva, receding gums, fissured and extremely reddened tongue should be looked upon as suspicious symptoms. Premature grayness or sexual weakness, diminished patellar reflex, slow healing of wounds and cramps in calves of legs, with muscular weakness, are frequently met with early in this disease. The prognosis depends upon several features. This is the only disease in our nosology in which old age is an advantage. The power of assimilation is extremely important, and permanent intolerance to carbohydrates is very unfavorable, especially when a glycosuria persists despite a rigid antidiabetic diet. An early recognition of the disease is to be desired, and hence routine examinations of urine are suggested. The ability to lead a sedentary life, free from care and worry, is important; the discovery of acetone or diacetic acid in the urine makes the prognosis very grave. Finally, much depends upon the capacity to absorb and assimilate fatty and nitrogenous foods, to the exclusion of carbohydrates. They may all be divided into the mild type, the medium type, and the severe type.

Comparative Pathology of the Jews.—After a thorough investigation of the relation of disease to the Jews and other races, M. Fishberg (*N. Y. Med. Jour.*, March 30 and April 6, 1901) reaches the conclusions that the death-rates of the Jews, at all ages, are comparatively and absolutely lower than those of the people among whom they live. Syphilis and alcoholism, and also diseases due in a great measure to their poisons, are comparatively rare among the Jews. Diabetes is very common, some believing that twenty-five per cent. of all cases occur in Jews. Functional neuroses and psychoses occur frequently among the Jews, but the organic nervous lesions are less common than among non-Jews. Blindness, trachoma and glaucoma are very often seen in members of this race. These peculiarities are not due to any ethnic, "biostatic" or racial characteristics of an anatomical or physiological nature, but have their origin in the past history of the Jews, in their habits of life, and in the fact that syphilis and alcoholism have but rarely been seen among them.

Rectal Feeding.—In numerous throat affections mouth-feeding is not only most distressing to the patient, but also interferes materially with the healing of the diseased parts. In operations upon the mouth or pharynx, in cases of diphtheria or severe laryngitis of children, or in tubercular laryngitis when the passage of food is extremely painful even after cocaine has been freely used, rectal feeding becomes not only comforting to the patient but by far more efficacious in maintaining the nourishment. Of course, it cannot be continued as the sole method of imbibing food for more than two or three weeks. A. C. Bardes (*Med. Rec.*, April 6, 1901) recommends the use of one to six ounces with the addition of ten drops of laudanum in case the rectum is irri-

table. Milk is the chief article employed. There are two processes of preparing, the cold method in which ten grains of pepsin are dissolved in four ounces of water, a pint of milk added and the mixture placed upon ice. When needed heat to 105° F. and inject. In warm process, the food is prepared as above and heated to 115° F. for half an hour, then placed upon ice and heated to 105° F. when needed. An egg, well beaten, may be added.

Ambulatory Typhoid with Perforation.—A peculiar case of a boy, seven years old, sick with typhoid fever of a mild type for one week in whom perforation suddenly occurred is reported by A. A. BERG (*Med. Rec.*, Mch. 23, 1901). He had headaches and general lassitude, but no abdominal pain, the stools were normal and he was not confined to bed during the week's illness. On day of the perforation he had violent cramps in lower abdomen, especially right iliac fossa. He had several chills followed by fever during the day and vomited once. There was no collapse. The temperature was 103° F.; pulse 136. Spleen and liver appeared normal, but there was much distention. Operation disclosed a seropurulent fluid and injected peritoneum, normal appendix and a small perforation of an enlarged Peyer's patch. The child made a good recovery, the temperature ranging from 100° to 104° F. during the next nine days. The stools were not typhoidal, the diazo remained negative, but a positive Widal was obtained on the nineteenth day. In speaking of the diagnosis and treatment of this condition the author insists on the necessity of making an early diagnosis. The symptoms of the preperforative stage due to the localized peritonitis are: (1) Local rigidity of the abdominal wall; (2) usually an increased leucocytosis; (3) local pain and tenderness; (4) possibly nausea and vomiting; (5) possibly increased pulse-rate and temperature. The first two are by far the most important and frequent examinations should be made to detect them. The evidences that a perforation has occurred are due entirely to the intestinal extravasation and may therefore be insignificant or of an alarming character. When severe they are the symptoms of shock—collapse, fall of temperature, cold clammy skin and rapid feeble pulse. As the peritonitis progresses Cushing has shown that the leucocytosis diminishes while the local signs of peritonitis increase. It is therefore very essential to detect the symptoms of the preperforative stage and although these do not indicate an operation, the subsequent appearance of shock or a decreasing leucocytosis with increasing abdominal rigidity urgently demand surgical interference.

Chronic Gonorrhea and Marriage.—Some authorities go so far as to say that since it can never be positively proven that the gonococci have entirely disappeared, consent to marriage should never be given, but since this would condemn nearly ninety per cent. of all male persons to celibacy the rule becomes most impracticable. L. WEISS (*Med. Rec.*, Mch. 23, 1901) believes that the decision should rest entirely on careful repeated examinations of the threads and the exudate expressed from the seminal vesicles and prostate. When the gonococci have entirely disappeared from these an irritative injection of a two-per-cent. silver nitrate solution or a 1-10,000 bichloride solution is made to induce a mild urethritis and cause the exudation of pus, epithelial cells and the gonococci which lurk in the epithelial cells or deeper structures. Not only microscopical examinations should be made, but cultures should be taken and both methylene blue and Gram's staining methods applied to the colonies grown. When after repeated examinations the presence of gonococci cannot be demonstrated, permission to marry should be given.

Vaccination.—H. PALM (*Arch. f. Gynaek.*, B. 62, H. 2) has observed the phenomena of vaccination among pregnant and nursing women and newly-born children, and concludes as follows: (1) Inoculation of the women at least during the last four months of pregnancy is harmful for neither mother nor child. The very fatal ravages of smallpox among the pregnant make vaccination of them peremptory; (2) such successful inoculation of the mother, even late in her pregnancy, does not protect the child; (3) it does occasionally happen that a child of such a mother will be resistant partly or totally to vaccination; (4) vaccination is well-borne by the youngest children, even those a day old, and even premature whether artificially or naturally fed; (5) vaccination of the newly-born is always peremptory in the presence of a smallpox epidemic; (6) habitual inoculation of such infants is not justifiable, because they are more susceptible to the accidents and bad-effects which occur among adults.

Tropical Dysenteries.—After considerable experience with our armies in the South and the Far East, S. M. LONG (*N .Y. Med. Jour.*, Mch. 30, 1901) concludes that only a few drugs have proven to be of any decided benefit. Although there are several types of the disease, the usual case of acute dysentery should first be given calomel in small doses to thoroughly clear the bowel. Ipecac is an excellent drug if given properly. The patient should be put to bed, and from fifteen to twenty drops of tincture of opium administered. Soon afterward put ice-bag on head, mustard paste on stomach, give a hypodermic of one-quarter grain of opium, and administer forty grains of ipecac by mouth. Nothing should be swallowed, not even saliva, and the patient should be kept quiet for four hours. A second dose may be necessary and in this way nearly eighty per cent. of cases can be cured. The subnitrate is the best preparation of bismuth

and this should be given in large doses, thirty or forty grains, and its action is enhanced by the addition of five grains or Dover's powder. Enemata are of great value in some cases. A soap-suds enema should be given first and then a hot-water irrigation medicated with silver nitrate or chloride of iron is given by means of a soft rubber tube. Normal salt-solution enemata, laudanum, and starch-water are also good.

Etiology of Cirrhosis of Liver.—With the intention of proving the action of poisons of liver cells, A. Marckwald (*Münch. med. Woch.*, Mch. 26, 1900) fed a number of frogs, with small, but gradually increasing doses of antipyrin. The organs reacted alike in all animals and three pathological stages could be observed: total destruction, beginning degeneration and transitions between both. Strangely, however, no true cirrhotic processes were found since in no place were the destroyed cells replaced by connective tissue. This the author ascribes to the fact that frogs in confinement do not spontaneously take nourishment and that thus reactive power on part of the tissues is impossible. On feeding the animals with meat quite different results were obtained. In places where there was much breaking down of liver-cells a granulation-tissue, consisting of intensely staining round cells had made its appearance. There is little doubt that in man a similar process goes on in cirrhosis of the liver and that destruction of liver-cells is the first and primary change.

Mixed Cirrhosis of Liver.—H. Ullmann (*Münch. med. Woch.*, Mch. 26, 1901) points out that it often is impossible to classify all cases into either atrophic or hypertrophic and that one often meets with large livers giving symptoms of the atrophic variety. So also in the case which the author cites where the liver reached to near the umbilicus and where enlarged spleen, ascites, distended abdominal veins and jaundice were present. The course of the disease here was very rapid, the patient dying several weeks after the onset of the symptoms. Only alcoholism could be found as cause. Microscopically a well-marked increase of connective tissue which stood in no definite relation to the liver-lobules could be demonstrated. The liver-cells themselves were fairly well preserved.

Treatment of Tuberculous Osteo-arthritis.—C. Trunecek (*Klin. therap. Woch.*, Mch. 31, 1901) recommends the following procedure where fistulæ are present. The granulations about the fistulous tracts are removed and the adjoining skin protected with vaseline. The cavities in the bone or joint are then washed out with a solution containing all the salts of the blood-serum in their normal proportion, but in a concentration of 20 per cent. A caustic action results without introducing any foreign material into the organism. A Priessnitz is applied after the lavage to reduce the inflammation which follows. The results are excellent, especially if the lavage is repeated several times at intervals of two weeks.

Charcoal and the Tubercle Bacillus.—It is a well-known fact that those subjected to the dust of carbon in any form are much less liable to suffer from tuberculosis than where other forms of dust are inhaled. To ascertain whether the various forms of carbon have any inhibitory action upon the development of the tubercle bacillus, J. Papasotiriu (*Münch. med. Woch.*, Mch. 26, 1901) grew them upon glycerin-carbon-agar with the result that they flourished just as well as before the addition of the carbon. The above fact must therefore find its explanation in a different way.

On Subcutaneous Injections of Paraffine.—The hypodermic use of paraffine has recently been recommended for cosmetic purposes to replace extirpated breasts, removed testicles, etc. H. Meyer (*Münch. med. Woch.*, Mar. 12, 1901) warns against the dangers connected with this procedure since the paraffine will slowly leave the original site of injection and will tend to eventually occlude the lymph and tissue-spaces with resulting disturbances of nutrition. The same may possibly hold true for the oil-injections employed for nutritive purposes.

Treatment of Acne Pustulosa.—Nitric acid, turpentine, a bundle of wooden toothpicks, blotting-paper and vaseline, together with some iron-strychnine-quinine pills and cod-liver oil, is the outfit with which H. L. Jones (*British Med. Jour.*, Mch. 2, 1901) successfully treats the worst cases of acne pustulosa. The pimples' base is smeared with vaseline, a toothpick, dipped in the acid and hurriedly dried on the blotter, is thrust into its depths, twisted three or four times and removed. If one the face, not more than six or eight should be treated at a sitting; if on the neck and shoulders, upward of twenty. The patient must be told that it will take from ten to twelve sittings in a bad case, and, particularly, that if a single pustule be left remaining the disease will surely return.

The Anopheles Campaign.—H. E. Durham, writing from Pará (*British Med. Jour.*, Mch. 2, 1901) has several interesting suggestions as to the ultimate extinction of malaria. He notes that throughout the southern countries there is but one time in which to make profitable use of chemical culicicidal agents in the marshy districts, *i.e.*, immediately before the rainy season. This conclusion, together with the belief that this mode of attacking the *Anopheles* is decidedly Utopian, he has gathered from experiments with a series of stagnant pools in the vicinity of Pará. He also concludes that Koch's vision of a universal cinchonization of communities would avail little, since quinine is lethal to some forms only, *i.e.*, the crescents. He

feels that if the parasite is to be successfully attacked *via* the human system, arsenic, which destroys the reproductive form, should be given for the protection of the community, while quinine must be restricted to the relief of the individual. It thus appears that, so far, man's best weapon against the *Anopheles* is drainage.

THERAPEUTIC HINTS.

Diphtheria.—With the exception of cleansing sprays of 6 per cent. boric acid solution, listerine and water, or salt and water, local applications are mostly unnecessary and therefore bad, writes CHAS. C. GIDNEY (*Pediatrics*, Mch. 15, 1901). In mild cases seen early, 600 to 1,000 units of antitoxin injected between the scapulæ or into the cellular tissue of abdomen or thigh, will suffice. In cases however of extensive membrane, 4,000 to 6,000 units should be injected at once, and perhaps an additional 2,000 to 3,000 units in the next day or two. Overdoses are harmless, as much as 12,000 units having been repeatedly used in the Brisbane Children's Hospital. When the pulse indicates it strychnine, digitalis, or alcohol may be of service.

Gargles.—Much has been written about the futility of gargles, but H. LAVRAND believes that the muscular tension of gargling is of some value in itself, and that gargles can easily be made to reach the posterior pharyngeal wall. He makes his patients take a mouthful of liquid, throw the head backward, open the mouth as widely as possible, and in this position attempt to exhale the breath. Then on quickly lowering the head some of the water is extruded by the nose, thus showing that it must have been in the pharynx. The method may be used to medicate nose, mouth or pharynx. In the above position a little liquid dropped on the tongue will run down into the larynx, but does not pass the vocal cords. The epiglottis, arytenoid bodies and vocal cords may thus be medicated. The author cites numerous experiments of painting the pharynx with methylene blue and gargling with water, with glycerite of starch and gargling with iodine solution, with tincture of iron and gargling with sodium salicylate solution, with glycerin solution of tannic acid and gargling with ferric perchloride, etc., all of which show that the posterior pharyngeal wall is reached by the gargling solution when the patient throws the head back and opens the mouth wide.—*Jour. des Sciences Méd. de Lille*, Mch. 30, 1901.

Typhoid Fever.—R. ROMME (*La Presse Méd.*, Mch. 20, 1901) finds that quinine and the bath are the favorite remedies for typhoid. Glénard uses the full Brand system of bathing. Comby, Guinon, Marfan, and Aussi give the first bath at 95° to 85° F., and in successive baths lower the temperature till it reaches 75° or 70° F. Variot gives tepid baths, and Netter warm baths like those Rénaud advises in bronchopneumonia. Among Germans, Binz and W. Erb have recently independently made pleas in favor of the use of quinine. Erb's treatment consists of attention to diet and hygiene, tepid baths progressively cooled, and quinine, gm. 1.0 to 2.0 (gr. xv-xxx), at night when the fever is at its height. Erb has abandoned the use of antipyrin, phenacetin, lactophenin, salophen, etc. He believes that quinine is not only antipyretic, but that it acts favorably on the course of the disease, shortening its duration. Binz prefers the hydrochlorate of quinine, as it is much more soluble.

Chloretone as Analgesic.—E. H. SITER (*Therapeutic Gazette*, March 15, 1901) has used chloretone in solution as a local anesthetic with extremely poor results, but in the form of a dusting-powder he has found it to mitigate or entirely allay the pain of granulating wounds. It neither hastens nor delays granulation and may be used with any dusting-powder, such as boric acid.

Guaiacol in Skin Tuberculosis.—A mixture of equal parts of guaiacol and olive oil is painted on the ulcerated area three times a day, after the crusts have been removed, and all exuberant granulations destroyed by a ten-per-cent. solution of lactic acid.—*Jour. de Méd. de Bordeaux*, Mch. 31, 1901.

Erysipelas.—The disease is self-limited and most cases get well without any internal medication. According to Osler the diet should be nutritious and light; chloral or bromides may be given for restlessness, delirium, or insomnia, and if these fail, opium. If the fever is high the patient may be sponged or bathed, or given antipyrin or acetanilid. The tincture of ferric chloride has been much given in dose of gm. 2.0-4.0 (ʒss-i), every 3 or 4 hours, with questionable benefit. Locally, a two-per-cent. solution of carbolic, or solutions of the bichloride or biniodide of mercury may be injected beyond the border of the spreading area. Ichthyol is at present much used. Perhaps as good an application as any is cold water.—*Practice of Medicine.*

Sweets.—Their action on the stomach and intestines, write VAN VALZAH and NISBET, is one of excitation of secretion and peristalsis. Large quantities are hydragogue, the secretion being poor in hydrochloric acid and ferments. In disease their digestibility is greatly modified and their easy fermentation constitutes a serious objection to their employment. Concentrated solutions of sugar congeal or may even inflame the mucosa. In the diseases of the stomach with excessive secretion all sweets must be prohibited; but if the digestive tube is sweet, the motor functions efficient, and the stomach not morbidly sensitive or inflamed, sweets may be permitted. In adenasthenia gastrica they may be beneficial. Milk-sugar is very nutritious, excites secretion but little when given well diluted and in small quantity, and is a valuable laxative food.—*Diseases of the Stomach.*

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SATURDAY, APRIL 20, 1901.

ROUTINE DOUCHING IN OBSTETRICS.

Since Semmelweis showed how greatly the mortality from puerperal infection might be reduced by simply washing the operator's hands before delivery, much attention has been devoted to methods for still further diminishing the number of infected cases. With this object in view routine vaginal douching before labor has been advocated by many obstetricians. In the year 1887 Gönner announced that the vaginal secretion of pregnant women examined by him did not contain the pathogenic bacteria which were usually found in puerperal infections, and that for this reason the use of vaginal douches before labor for the prevention of auto-infection was unnecessary. Since that time the advisability of routine douching before and after delivery has been frequently discussed.

The statistics advanced by those in favor of routine douching, as well as those presented by the opponents of this procedure, are of uncertain value. This is due largely to the diminution of the number of cases of infection in the maternity hospitals, by reason of the many improvements in aseptic technic, such as the restriction of frequent internal examinations, and careful disinfection of the hands. This small proportion of infected cases affords poor grounds for estimation of the results of antepartum douching, as some of the cases infected are doubtless due to individual errors in technic and so prove nothing in regard to the value of douches.

Certain observers have discovered pathogenic micro-organisms in the normal vagina and for this reason advocate prophylactic douching. Others hold that the vaginal secretion possesses bactericidal qualities. These are attributed by Döderlein to its acid reaction produced by the vaginal bacillus which bears his name. The experiments of Krönig show that the vagina takes longer to eliminate pathogenic bacteria artificially introduced, when douches are employed; and other investigators have found that douching, with or without antiseptic solutions, usually fails to remove such organisms.

The recent bacteriological researches of A. Wadsworth (*American Journal of Obstetrics*, April) have led him to condemn routine antepartum or postpartum douching. His technic was such as to exclude all possibility of contamination of the uterine and vaginal secretions, and both cultures and staining methods were employed. He found that it was exceptional that pathological bacteria persisted in the vaginal secretion through pregnancy and labor, but that if they were present the lochia favored their growth, and energetic antisepsis after labor was necessary. Cultures from several cases in one of the best of New York's maternity hospitals demonstrated the persistence of streptococci in the vagina after repeated douching with a 1-5,000 solution of bichloride. He considers as requisite points that the disinfecting solution be brought into contact with all bacteria by distending the folds of the vagina, and that it be of sufficient strength to kill the micro-organisms without, however, injuring the vaginal wall. The douche, as ordinarily given, merely removes the protective resources of the vagina. Wadsworth's cultures confirmed the statement that the uterine cavity is usually germ-free. He emphasizes the necessity of differential diagnosis between sapremia and septic conditions, since intrauterine douching after labor is strongly indicated for the removal of the abnormal contents

of the uterus in the former class, while in septic conditions it is likely to aid in disseminating the process unless the uterine sinuses have been closed by granulation tissue. The rule which he lays down is that bacteriological examination of the cavity of the uterus should always precede an intra-uterine douche and such an examination should be made early, since, if a radical operation is required, an early determination of this point is of great importance in regard to its prognosis.

Reviewing the results of Wadsworth's observations as well as those of others, one cannot fail to note that antepartum douches frequently fail to remove pathogenic bacteria when they are present; that they destroy the natural protection of the vagina, whether this be its secretion as a whole or the vaginal bacillus; that they are liable to cause slight injuries to the vaginal wall and so furnish points for the entrance of infection, or at least, by removing the lubricant of the vagina to make labor more difficult and thus favor such vaginal traumatism; and, finally, that pathogenic bacteria may be introduced by these manipulations. For these reasons, and on account of the danger of dissemination of sepsis by intrauterine douching while the uterine sinuses are closed only by infected blood-clots, one must in general agree with Wadsworth's conclusion; that "the routine management of cases should be freed as far as possible from all procedures which interfere with the natural resources of the body; for these, in the vast majority of cases, are sufficient protection against the invasion of pathogenic bacteria. In the few exceptional cases requiring interference this should be determined and directed by the bacterial examination."

This statement seems open, however, to slight modification. No one will deny that after manipulations which require the intimate contact of the hand with the interior surface of the uterus, as in manual extraction of retained secundines, it is wise to give immediately a bichloride douche for the purpose of flushing out any pathogenic bacteria which may have been introduced, before they have an opportunity to become attached to the uterine wall. Such a bacteriological examination as Wadsworth advises is obviously beyond the reach of the attending physician in a large proportion of cases in private practice, and in these the indication for douching must necessarily be derived from careful exclusion of all other causes of fever, with the presence of local symptoms. Whether the uterine condition is one of sapremia or of sepsis must, in such a case, be determined by the judgment of the physician, aided by the history of the labor and the probability of infection before or during labor as opposed to retention of secundines. As a general rule avoid douching in obstetrics unless it is particularly indicated.

DIABETES AND THE PANCREAS.

EMBEDDED in the substance of the pancreas are the peculiar bodies described by P. Langerhans and usually designated islands of Langerhans. They are composed of polygonal cells arranged in irregular columns, between which are wide tortuous anastomosing capillaries. The lumen of the ducts of the secreting acini of the pancreas does not penetrate the cells in these islands and it is therefore inferred that they are not concerned in the formation of the pancreatic juice. It is interesting, moreover, to note that these bodies resemble other ductless structures, notably the parathyroid and carotid glands and in some respects the suprarenal, pituitary and thyroid bodies.

Such is the general introductory description of these bodies as given by Dr. Eugene L. Opie in a recent study on the "Relation of Diabetes Mellitus to Lesions of the Pancreas" (*Journal of Experimental Medicine*, March 25, 1901).

The histology of these bodies has suggested to physiologists that perhaps the pancreas also had an internal secretion which might be found to have some relation to carbohydrate metabolism, and certain experiments by Ssobolew have seemed to bear out this hypothesis. Dr. Opie's researches, from the pathological side, tend further to strengthen the theory. He characterizes two types of pancreatitis, one an interlobular form, in which with other changes the islands of Langerhans are only secondarily implicated and a second, or interacinar pancreatitis, in which these structures suffer with the other elements of the gland. With the former type, diabetes is not a common accompaniment; with the second, however, he believes that it is, and an interesting case is described in which these islands have undergone complete hyaline degeneration. The clinical history was accompanied with marked symptoms of diabetes mellitus. This case, with some others previously reported, calls

attention to this peculiar type of lesion, and while it is unquestionably true that impaired pancreatic function is not the only cause of diabetes, in fact, pancreatic disease is absent in many frank cases of this affection, yet the author concludes that destruction of this portion of the organ will cause the disease.

As he concludes, "Destruction of the pancreas in animals, and in man, is accompanied by diabetes: in the present case destruction of the islands of Langerhans has been accompanied by this disease. Since diabetes is absent when, as the result of duct obstruction, the secreting portion of the gland undergoes great alteration, although the islands are spared, the conclusion is justified that it is those structures which influence carbohydrate metabolism. What has been learned concerning the relation of the pancreas to diabetes is the relation of the islands of Langerhans to this disease."

APROPOS OF THE CITY CHARTER AND BELLEVUE.

The members of the committee appointed by the Medical Board of the City Hospital to take action in regard to the amended city charter so far as it affects Bellevue and the allied hospitals object to the proposed change of vesting the authority of management in a board of seven trustees, instead of in the one commissioner.

Reforms, in New York are about as permanent as street improvements; no sooner does the commotion, up-tearing and relaying pave a sightly thoroughfare, than the whole thing must be ripped up and done over again. Bellevue reforms have been stirred up before and at the change of administration have relapsed into their former condition. If anything permanent is to be accomplished it must be by organizing the hospital administration on lines that are wholly outside of politics; and to accomplish this we state once more what we have already emphatically repeated that if Bellevue is to be placed in the same irreproachable category as other hospitals it should be managed as they are, by an unsalaried board of trustees; trustees who shall be chosen from among the powerful and influential men of the city who will give as disinterested service to the city's sick, as do the other able men who serve upon the board of trustees of the great private hospitals.

Drs. Edward S. Peck, C. L. Gibson, Charles C. Ransom, Robert H. M. Dawbarn, Alfred N. Strouse, and Nathaniel Bowditch Potter who compose this committee are rather vague in their objections, if we are to judge by press notices. They think that the complex methods of making nominations for the positions of trustees are no guarantee of the occurrence of a state of harmony or common interest in caring for the sick and that there would be opportunity for the furtherance of special and individual purpose. We wish to remind the committee that Bellevue has been through a good many reforms, and is not much better off for them; that as soon as the present commissioner retires, the hospital will be at the mercy of whatever politics may throw its way; that the public will feel that enough attention has been bestowed upon its betterment, and will turn wearily away when the same process of ripping up again becomes necessary, and that now is the great opportunity, once and for all, to put Bellevue and the allied hospitals under a different management.

It may cost a little more to readjust the relations but it will be money for which value will be received; and so long as the money goes directly to the city's poor and not to its politicians, we do not see why the committee should be so chary about the outlay. None of their excuses about the possible friction, the possible personal aggrandizement, and the possible extra expense should have weight in comparison with the actual state of affairs that has been tolerated in spite of all efforts to modify it during the last twenty years.

ECHOES AND NEWS.

NEW YORK.

Brooklyn Pathological Society.—At the last regular meeting of this Society, held April 11, Dr. Clarence Hyde read a paper on "Urethral Caruncle" and Dr. J. S. White contributed a paper on the "Diognosis of Bone Disease by Means of the X-Rays." Drs. James Sears Waterman, Walter C. Wood and William B. Brinsmade presented interesting specimens.

Coroner's Physician.—Dr. Edward T. Higgins of 818 East 147th street has been appointed a Coroners' physician to succeed Dr. Edward J. Donlin, who was recently made a police surgeon.

Dr. Brooks, Zoo Pathologist.—By resolution of the Executive Committee of the New York Zoölogical Society, Dr. Harlow Brooks has been appointed pathologist to the New York Zoölogical Park. This is considered an important step in the extension of original scientfic work, for the park collections furnish a splendid field for the study of comparative

pathology. A laboratory will be fitted up in the temporary administration building, now approaching completion, and this will be assigned to Dr. Brooks. In creating the position of pathologist, the Society has defined his duties as follows: "To make regular visits to the park, to examine into the hygienic condition of the animals, and to recommend such treatment and to make such autopsies and microscopic studies as will tend to advance our knowledge of the prevention and treatment of the diseases peculiar to animals in captivity."

Physical Education.—The twelfth annual meeting of the American Association for the Advancement of Physical Education was held April 18, 19 and 20, 1901. Physical training in the public schools was shown by visitation to several of the gymnasia in the schools of the boroughs of Manhattan and Brooklyn. The gymnasium of Columbia University, the Physical Development Institute, North American Gymnastic Union and the Young Men's Christian Association were also visited. The papers read in the Hall of the Board of Education were interesting and profitable. Physical examination, training and the value of athletics were well discussed. In the Section on Elementary Schools, the questions of hygienic school desks, hygienic instruction, children's games, etc., were among the topics treated. Psychology and psychological tests were made the subject of papers and discussions on Friday morning at Columbia University. These were followed by a number of valuable hygienic studies relative to metabolism and muscular exercise. The effects on blood pressure, the blood composition, influence of posture on respiration, etc., were among the more important papers.

Manhattan Dermatological Society.—A regular meeting of the Society was held on Friday evening, April 5th, at the residence of Dr. Wm. S. Gottheil. Dr. Geyser presented an extensive lupus vulgaris of the face successfully treated by the Roentgen rays. The right side showed a smooth, shining cicatrix, the left a superficial burn and an X-ray alopecia. Each sitting lasts from seven to ten minutes and is followed by a static spray which is said to "deaden" the pain. Fourteen cases have thus far been treated by him, with very fair results and no ill effects. This method is superior to Finsen's phototheraphy.

Dr. Gottheil presented a boy of ten years with a congenital growth under the right axilla, which consisted of very dark tuberous excrescences. There were a few isolated patches to the outside and a row of similar lesions along the inner side of the forearm. Opinion as to the diagnosis were asked. Dr. L. Weiss considered it a case of acanthosis nigricans. The region of the axilla was characteristic. Dr. J. Sobel would call it nævus linearis verrucusus. The linear distribution on the forearm corroborates the diagnosis. Dr. Gottheil considers it nævus unius latetis or nævus papillomatosus. Dr. J. Sobel presented two cases of pityriasis rosea in children of eight and twelve years respectively. Both showed lesions on the face, and complained of severe pruritus. The lesions take the characteristic mahogany color when painted with Lugol's solution (Allen's test).

Dr. Martus presented a girl, fourteen years of age, with a chancre of the labium and a generalized papulo-squamous-pustular syphiloderm. Sexual intercourse was admitted. Iritis, adenopathy and mucous patches existed.

Dr. Ludwig Weiss demonstrated the development of the molluscum fibrosum in a patient with multiple lesions. Some were more tangible than visible; other lesions were large, others small, some sessile, some pedunculated. A few were soft. Dr. Gottheil said the soft ones suggested an angiomatous element. Dr. Ochs remarked that in a similar case of his he had found Asiatic pill very efficient. Dr. Gottheil presented two patients, one with a positive, the other with a probable disseminated sarcoma cutis. The latter may be syphilis. Dr. Sobel showed a patient with a diffuse chrysarobin dermatitis following the use of a five-per-cent. ointment for psoriasis. Dr. Gottheil demonstrated the use of an elaborate apparatus for the Finsen treatment of dermatological lesions. Dr. Geyser presented a lupus vulgaris of the neck which had been subjected to one sitting of the X-ray. Dr. Gottheil showed a patient with a gummatous deposit in the sternocleidomastoid muscle and the clavicle.

Academy of Medicine.—The Section on Laryngology and Rhinology will meet Wednesday, April 24th. Dr. Clarence C. Rice will read a paper on "The Importance of Preventing Chronic Suppurating Ethmoid Disease by Prompt Local Treatment," and Dr. Beaman Douglass will read a paper on "Nasal Conditions Observed in the Aged."

For the Section on Obstetrics and Gynecology to be held Thursday, April 25th, the following papers are announced: "Symphyseotomy" by Dr. E. A. Ayers; "Cæsarian Section" by Dr. E. B. Cragin; "Dilatation of the Cervix" by Dr. H. J. Garrigues; "Axis-Traction Forceps" by Dr. E. H. Grandin, and "Version: Indications, Limitations and Technic" by Dr. S. Marx. A general discussion by Drs. R. A. Murray, H. C. Coe, Charles Jewett, H. J. Boldt, G. W. Jarman and others will follow.

Hospital Staff Appointments.—Among some of the successful candidates for hospital interneships at the recent examinations are Dr. P. W. Bill, Methodist Episcopal Hospital; Drs. F. G. Hodgson and Condit, St. Luke's; Drs. S. V. Whitbeck and D. B. Deming, Roosevelt.

PHILADELPHIA.

Is Erysipelas Contagious?—A difference of opinion regarding this question is barring a Germantown domestic from the hospitals of

this city, application to nearly all of which having been made by her physician. The general hospitals refuse the case because the disease is contagious. The authorities of the municipal hospital refuse the case because that hospital is for the treatment of contagious diseases only, the rules thus making erysipelas one of the diseases which cannot be treated there. The physician of the patient states that he is not prepared to say that erysipelas cases should be placed in surgical wards, but when in their proper place, the medical wards, there can be no possibility of contagion.

Tributes to the Memory of Dr. Pepper.—At the April meeting of the College of Physicians Dr. James Tyson read a memoir of the late Dr. William Pepper. The recital of what that remarkable man accomplished as a teacher, practitioner, organizer, founder, author, and as an executive, fills one with amazement. In addition to these points Dr. Tyson paid an eloquent tribute to Dr. Pepper as a colleague and a friend. A portrait of Dr. Pepper was presented to the American Philosophical Society April 12th. Dr. Horace Howard Furness, who presented the portrait on behalf of a number of the members of the Society, said in part: "By one noteworthy element in Dr. Pepper's temperament I was always impressed, and that was a sense of proportion. He had the faculty of differentiating values. His perspective was always true. At a glance he distinguished the permanent and the transitory. Therefore it is that the institutions with which he was connected or which he guided will for many a year to come follow out the lines which he, in his far-seeing wisdom, laid down. Ambition is proverbially selfish, and that he was ambitious we all know. But herein was what was almost his crowning quality. His ambition was never for himself. If he was exacting and determined in the pursuit of his ambition, it was not for his own ends. His ambition was set in the attainment of loftier planes for the institutions for which he toiled and planned. To the reflex effect upon himself or his fortunes of any course which he deemed of moment, I think he never gave a single thought."

Amend the Rules.—Daily newspapers so often make a muddle of matters medical by misquoting, using wrong terms, and becoming sensational in regard to items of news that we desire to give the *North American* credit for a strongly put, but appropriate editorial in the issue of April 15th. The case in question was that of a young colored woman who found her way to the Presbyterian Hospital just as she was to give birth to a child. The staff refused to admit her because they handle no maternity cases. Removed by a patrol wagon the woman was delivered of the child before the Philadelphia Hospital could be reached. The authorities of the first named institution upheld the action of the staff. The editorial is as follows: "Those managers of the Presbyterian Hospital make a grave mistake who attempt to justify the turning away from the doors of the institution of a woman in woman's last extremity. It was an inhumane, an un-Christian act. It is known that the Presbyterian is not a maternity hospital, and that to take in such patients under regular conditions is against the rules. But no hospital should have rules of a kind that will compel its staff to refuse emergency aid to a human being. We trust that the managers of the Presbyterian Hospital, instead of seeking excuses in palliation of an act which has shocked the humanity of the community, will be sufficiently wise to instruct the staff to be more anxious hereafter to behave mercifully in a crisis than to apply rules. In that way the managers may in part atone for the outrage of which a friendless and penniless and agonized woman was the victim."

Indigestion in Infants.—Dr. L. Emmett Holt of New York addressed the Pediatric Society April 9th on "Some Forms of Indigestion in Infants and Young Children, with Especial Reference to Their Dietetic Treatment." Dr. Holt spoke mainly of the chronic forms of indigestion, saying that the direct inheritance of indigestion is questionable. He also said that the average obstetrician has but little knowledge of proper infant-feeding and the pediatrist should have charge of the infant from the beginning instead of when it is one month old if the best results are to be attained. Infants can be accustomed to cow's milk only by careful training. Dr. Holt prefers milk from the Walker-Gordon Laboratory to any other infant food, the usual initial formula being 1 per cent. fat, 6 per cent. sugar, and 5 per cent. proteids.

Test of Food Is Comfort of the Child.—The healthy child is absolutely comfortable and this should be the condition sought in artificial feeding. Gain in weight may not be immediate and constipation frequently is present. But if the child is entirely comfortable wait for gain in weight and do not pay too much attention to the constipation. It will generally disappear when the food is made stronger. Vomiting may be a troublesome symptom. Gastric dilatation rarely has much to do with that condition, it being due more frequently to high fat percentages than to any other cause. In such cases avoid milk and cream and use milk and lime-water. When vomiting is caused by mucus, stomach washing is the only remedy. Attacks of acute indigestion may be caused by a surprisingly small quantity of cow's milk. Dr. Holt cited cases to show that these attacks may not be due to infection from the milk, as is generally supposed, but to the fact that the milk causes a condition favorable to the growth of germs already present. Death in these cases is due to the condition of the child and not to the milk. In view of this, careful attention

should be paid to the history of the child and if previous attacks of indigestion have followed the use of cow's milk, its use should not be begun early.

Analysis of Breast Milk Is Unsatisfactory.—The analysis of breast milk to determine the cause in cases of indigestion in nursing infants is unsatisfactory. The true test is effect of the milk upon the child. If there is persistent indigestion with no gain in weight the case is hopeless and nursing should be stopped. If there is gain in weight, efforts should be made to overcome the indigestion. Change in diet is often of the utmost importance. Less milk, with higher percentages, and plain water between meals often give good results. Too much attention should not be paid to traditional opinions regarding the amount of fat and proteids in formulæ. The comfort of the child should be the real guide in any system of infant-feeding.

Pennsylvania Hospital.—The Pennsylvania Hospital, termed by its historian, Dr. Thomas G. Morton, "the Mother of American Hospitals," will celebrate on May 11th next the 150th anniversary of its establishment. It was founded by the Assembly of the Province of Pennsylvania in 1751, in response to a petition in the handwriting of Benjamin Franklin, which was drawn up at the suggestion of Dr. Thomas Bond. Funds were not plentiful, and it was only on the offer of Drs. Thomas Bond, Lloyd Zachary, and Phineas Bond to give their services for three years that a modest grant of £2,000 was made, to be supplemented by a like amount from private subscription. Since its inception, to quote from the Philadelphia *Ledger*, "the hospital has either led or kept pace with advancements in surgery and medicine. It was the first to introduce clinical teaching in this country, the first bedside instruction in medicine being given by Dr. Bond. It was the pioneer in this country in caring for the insane, and led the world in evolving and perfecting the humane and rational treatment of those suffering from disordered minds." Another circumstance that gives it fame is that it is the one great hospital in the country that has cared for wounded soldiers of the colonial and Revolutionary wars, the War of 1812, the Mexican War, the Civil War, and the Spanish-American war.

CHICAGO.

Sanatorium for Consumptives.—Members of the Illinois Society for the Prevention of Consumption are pushing the bill for a State sanatorium pending before the Legislature. As referred to the Committee on State Charities, the bill provides for the appropriation of $200,000 to purchase a site and construct appropriate fireproof buildings, and the building is to be known as the Illinois State Sanatorium. Provision is made for the appointment of three trustees by the Governor, under whose direction the appropriation shall be spent and the institution managed. Consulting physicians, a superintendent, a medical staff and other employes are to be selected by the Board of Trustees. Following is the section relative to the admission of patients: "The Superintendent and consulting physicians shall formulate such rules as they deem advisable, regulating the admission of persons afflicted with tuberculosis to the Illinois State Sanatorium, keeping in view the fact that in the early stage the disease is curable, and that the greatest good to the State is derived from the restoration to health and to their families of the dependent sick; therefore, the cases of incurable tuberculosis should be cared for in a separate institution, but perhaps on the same site, the said rules of admission to be approved by the Board of Trustees. The charges for the support of the inmates of the said institution as are of sufficient ability to pay for the same, or have persons or kindred, towns or cities, bound by law to maintain them, shall be paid by such inmates, such persons, or kindred towns or cities at a rate to be determined by the Trustees of said sanatorium. All persons citizens of the State of Illinois who shall be admitted to the sanatorium, and are indigent, shall be given medical care and board at the expense of the county of which they are residents." The passage of the bill is strongly urged as a step toward checking the increase of the prevalence of consumption. Authorities of the State Board of Health and officials of the Chicago Department of Health favor the bill.

Home for Epileptics.—There are five thousand epileptics in the State of Illinois, and the Board of Charities declares they should be removed from asylums and poor-houses and placed in an institution where they may receive proper attention. Two sites are suggested for the home—Grand de Tour, in Ogle County, and Elsah, in Jersey County. Three members of the Board favor the selection of Elsah, while only two recommend Grand de Tour. The necessity of providing a place for epileptics, so they may escape from their undesirable condition in almshouses and asylums, is acknowledged by all acquainted with the question. Most epileptics are able-bodied and require outdoor work and exercise. Ordinary treatment for the insane or feeble-minded is entirely inapplicable in epileptic cases. Chicagoans interested in the movement hope the Senate Committee will decide to locate the institution at Grand de Tour, not only because it is more advantageously located for this part of the State, but because, in the opinion of physicians and specialists, it is more healthful and better adapted for such a home.

The Skull and Its Contents.—Dr. W. H. Earles, of Milwaukee, read this paper. The conclusions of the paper were based upon the following propositions: (1) As a general proposition, it is safe to say that any injury to the head sufficiently violent to product fracture of the skull bones is also sufficiently violent to seriously injure the brain, its coverings or interfere with its circulation. (2) Many times blows upon the head without fracturing the bones produce such

injuries to the brain as to cause serious trouble, both present and prospective. (3) Where such injuries exist, their treatment implies immediate effort to repair the soft parts. With present knowledge of the anatomy, physiology and focal centers of the brain, combined with the deductions drawn from past experiences in the surgery of this organ, both as regards interference and non-interference with traumatic and pathological conditions associated therewith, but one position is tenable, and but one conclusion logical, namely, that much more is possible than has been accomplished. Couple this conclusion with the safety afforded by surgical cleanliness, and it becomes fairly presumptive that reasonably successful surgical work upon the brain is possible, and from this work reasonably accurate results may be predicated. In summing up the author said he would use the trephine or chisel in every case of severe injury to the head, as evidenced by the symptoms and degree of force received. He would carefully examine the soft parts and, if found injured, would repair them at once. If this is not done at the time of the injury, then it should be done as soon thereafter as circumstances will admit, in the hope of preventing secondary sclerosis. When sclerosis has become established, the diseased area should be thoroughly excised, substituting healthy and comparatively non-irritating union for old diseased conditions. The physician should be certain that the offending area is the one removed.

College of Medicine and Surgery.—This institution has increased its capital stock from $10,000 to $50,000.

Memory of Dr. Thompson.—The memory of the late Dr. Mary H. Thompson is to be perpetuated by a large marble bust by Daniel Chester French, the sculptor, to be placed in the Art Institute.

GENERAL.

Appointment of Dr. Pozzi.—Dr. Samuel Pozzi has been appointed Professor of Clinical Gynecology in the Medical Faculty of the University of Paris.

National Association for Study of Epilepsy.—Among those who will read papers at the next regular meeting of this Association are Dr. A. E. Osborn, Wharton Sinkler, H. C. Rutter, W. F. Drewry, Max Mailhouse, Prof. Paul Kovaleosky of St. Petersburg, W. Aldren Turner and G. Penn Gaskell of London, Frederick Peterson, B. M. Worsham, L. Pierce Clark and Wm. P. Spratling.

German Physicians' Association.—Berlin has an association of physicians who pay a sum equal to 5 per cent. of their income tax every year into the treasury. This yields about $12,000 a year, which is given to those members and their families who need help.

Plague at Ann Arbor.—It is decided that the case of suspected plague reported in last week's Medical News is one of true bubonic plague. The student, C. B. Hart, contracted the disease as a result of laboratory work with the organism.

A Doctor's Gift to the Blind.—We learn from the *Lancet* that Mr. George Scale, a medical practitioner of Portsmouth, England, who retired from practice in 1872 by reason of blindness, has left to the Corporation of Portsmouth a sum of $100,000 to provide annuities for the blind. The applicant must be over thirty years of age and be found worthy. The amount of each annuity is fixed at $150.

Association of American Medical Colleges.—The next regular meeting of this association will be held at the Hotel Ryan, St. Paul, Minnesota, Monday, June 3, 1901. It will consist of two sessions, an educational session and a business session. The educational session will be opened at 2 p. m. by the President's Address, followed by several papers of medical pedagogic interest. To this session all persons interested in medical education are respectfully invited. The representatives and associates of the Association of Southern Medical College have received a special invitation. The members of the Confederation of State Examining and Licensing Boards are also invited. There will also be an exhibition of work done in medical colleges. At 8 p. m. the business session will be held at which the amendments to the Constitution proposed by several colleges will be considered. The report of the judicial council, the election of members and the election of officers for the succeeding year will close the program.

Preliminary Program of the Ohio State Pediatric Society.—The annual meeting of this Society will be held in Cincinnati, May 7th, beginning at 2 p. m. and continuing through the evening and next forenoon until the program is completed. The Society will meet in the Convention Hall, Grand Hotel, which hotel will be the headquarters of the Society. The following papers will be read: "Phlyctenular Conjunctivitis," by S. C. Ayres, M.D., Cincinnati, O.; "Pemphigus Neonatorum," by A. Ravogli, M.D., Cincinnati, O.; "Infantile Nourishment," by George M. Clouse, M.D., Columbus, O.; "The Necessity of a More Perfect Aeration," by H. H. Spiers, M.D., Ravenna, O.; "Bloodless Reduction of Congenital Hip Dislocation," by Walter G. Stern, M.D., Cleveland, O.; "Chorea," by James H. Taylor, M.D., Indianapolis, Ind.; "Criminals and Defectives, How to Reduce Their Numbers," by J. R. McCally, Dayton, O.; "Dosimetric Medication in Pediatric Practice," by M. Borts, M.D., Cleveland, O.; "Ohio Institution for Feeble Minded," by G. A. Doren, M.D., Columbus, O.; "Coal Tar Derivatives in Children's Diseases," by J. B. McGee, M.D., Cleveland, O.; "Acute Intestinal Obstruction," by F. F. Lawrence, M.D., Columbus, O.; "Chronic Intestinal Obstruction, with Report of a Case," by D. S. Hanson, M.D., Cleveland, O.; "Purulent Ophthalmia in the New-born," by Edward Lauder, M.D., Cleveland, O.; "Malignant Diseases in Children, with Report of a Case."

by J. V. Kofron, M.D., Cleveland, O.; "Strumous Keratitis and Conjunctivitis," by Derrick T. Vail, M.D., Cincinnati, O.; "State Provision for the Care and Treatment of Crippled Children," by Frank H. Darby, M.D., Columbus, O.

Fifth International Congress of Physiologists.—In conformity with the resolution passed at the Fourth Congress at Cambridge, England, on August 26, 1898, the Fifth International Congress of Physiologists will be held this year at Turin, from the 17th to the 23d of September, in the Physiological Institute of the University, directed by Professor Angelo Mosso. The sessions of the 17th, 18th, 19th, and 20th of September will be occupied with the ordinary business of the Congress (demonstrations and communications). The 21st and 23d of September will be devoted to supplementary general sessions, at which the reports of the International Commission appointed at the Cambridge Congress (dealing with the standardizing of recording apparatus, calorimetric methods, and of units in the physiology of the senses, etc.) will be submitted, as well as other business.

In addition to the General Secretaries for the work of preparation for the Fifth Congress, Professor Frederic S. Lee (Columbia University, New York), Secretary of the American Physiological Society, will discharge secretarial duties in America. American physiologists who intend to be present at the Fifth Congress are requested to notify him.

English Drunkard Legislation.—An Habitual Drunkard's Bill introduced in Parliament recently by the Bishop of Winchester proposes novel methods of protecting the wife and children of the habitual drunkard by punishing saloon-keepers who sell drink to the habitual drunkard. The bill proposes the establishment of a black-list of persons declared to to be habitual drunkards, whose names are to be notified to the keepers of licensed houses within a specified area, with a direction not to serve them, and also makes the offence of being drunk when in charge of a child punishable by a special penalty. The status of an habitual drunkard is acquired by a man being within twelve months three times convicted of certain offences found by the court to be due to or helped along by drink. In such cases a man is to be declared an habitual drunkard. The order so declaring him is then to be sent to all license-holders within a certain area, and also to the chief police officer for the district. Serving such a drunkard with intoxicating drink renders the license-holder liable to a fine of $50 for the first offence and to a fine of $100 for subsequent offences, the drunkard also being liable to a fine of not more than $5. An alternative penalty is that instead of fining the saloon-keeper $100, his license be suspended for three months. The license of any saloon-keeper so convicted is to be endorsed accordingly. From the favorable consideration which this proposed bill has received, it is considered reasonably certain that some of its features will become law.

Obituary.—Dr. Frank Wayland Abbott, regarded as one of the foremost oculists in Western New York, died at his home, No. 523 Franklin street, Buffalo, N. Y., April 9th, after a protracted illness. Dr. Abbott was graduated from the University of Buffalo in 1866, and was oculist in chief at the General Hospital and the Eye, Ear, and Throat Hospital of Erie County.

Dr. William F. McClelland, who was one of the first physicians to make a study of the climatic influences of the mountain region upon pulmonary diseases, and who was widely known in America and Europe, through the performance of many difficult surgical operations, died April 12th at his home in Denver, Col., aged eighty years. Dr. McClelland left a large estate.

Dr. Block, of San Francisco, who has been studying in the Berlin clinics, died at Berlin, April 12th, of scarlet fever.

CORRESPONDENCE.

AN OBSTINATE CASE OF HICCOUGH.

To the Editor of the MEDICAL NEWS:

DEAR SIR: I wish to report briefly an obstinate case of hiccough. Carl J., aged twelve years, previous health good. Three years prior to this attack he had a similar one which lasted fourteen days. I did not see him during that attack, but have the history from his parents and family physician. During that attack he hiccoughed continuously. A mixture of bromide of potash and tincture of valerian relieved him. He has fair complexion, light hair, and is very intelligent. There is no history of any nerve trouble in parents or grandparents.

I saw the case throughout the second attack, and was met twice in consultation by two other physicians. I used asafœtida, acetanilid, bromides, chloral, camphor, ipecac, in emetic doses, soda, valerian, ether, chloroform, morphine, opium, electricity, mustard to stomach, and along the course of the pneumogastric nerves. A mixture of morphine and chloroform in simple syrup relieved him for eight or ten hours. This was the only thing that did him any good at any time. The appetite was good, but occasionally he vomited the food.

He was bright and cheerful most of the time. There was no rise of temperature. He slept comparatively well, although the hiccoughing continued with the same regularity as when awake. He seemed to have formed a habit of hiccoughing. This continued for sixty-five days, with the exception of one period of eight or ten hours, when it finally "wore itself out," and he got well in spite of treatment, and so far as I know has had no other attack.

C. C. HUBBARD, M.D.

Worthville, N. C.

OUR LONDON LETTER.

[From Our Special Correspondent.]

LONDON, April 8, 1901.

THE NATIONAL HOSPITAL FOR THE PARALYZED AND EPILEPTIC—ITS MEDICAL STAFF AND ITS BOARD OF MANAGEMENT—AN ANOMALOUS OFFICIAL—CEPHALITIS NOSOCOMIALIS—A VICTORY FOR THE DOCTORS—MEDICAL M.P.'S—THE INTERNATIONAL CONGRESS ON TUBERCULOSIS.

THE thing most talked about in medical circles here at the present moment is the great quarrel between the governing body and the medical staff of the National Hospital for the Paralyzed and Epileptic. The institution is well known throughout the medical world by the work in neurology that has been done there during the last thirty or forty years by such men as Hughlings Jackson, Buzzard, Bastian, Ferrier, Gowers, and Victor Horsley. On this account a brief narrative of the facts which have led to the biggest scandal in hospital affairs that we have had for many years may be interesting to American readers. The National Hospital is managed by a board of laymen, the chairman of which is Mr. G. W. E. Russell, a member of the great Whig family whose head is the Duke of Bedford. He was for some years a Member of Parliament and more than once held subordinate offices under Gladstone. He is the author of a monograph on that moral, but mobile politician which would be described by the French as *"Gladstone intime,"* and he has added to the gaiety of club smoke-rooms by a miscellaneous assortment of chestnuts of various degrees of antiquity entitled "Collections and Recollections."

What is more to the present purpose, Mr. Russell is an ardent member of the antivivisection church militant. This of itself would be enough to put him out of harmony with a medical staff which includes men like Ferrier and Horsley who, in the eyes of antivivisection fanatics, are what the Scarlet Woman sitting on the Seven Hills is in those of antipopish bigots. But in addition to this particular "lost chord" of sympathy, there is yet another in the person of Mr. Burford Rawlings, a paid official who rejoices in the title of "Secretary Director." The office is as unique as the title, for the Secretary Director is practically the supreme authority in the hospital. It is only fair to state that Mr. Burford Rawlings has done much for the material prosperity of the hospital. He is a capable man, with a considerable talent for that peculiar kind of literary composition which is intended to screw the heart-strings of the charitable to subscription pitch. But his success in his proper sphere has had the not uncommon result of producing a form of enlargement of the skull which from the special frequency of its occurrence in persons concerned with hospital administration might perhaps be termed *cephalitis nosocomialis*. This condition, though as yet unrecognized by pathologists, should find a place among "occupation diseases" as "the swelled head of hospital secretaries." As the National Hospital has grown in importance and reputation, the mind of its Secretary Director, as Byron said of the visitor to St. Peter's in Rome, expanding with the genius of the spot, has grown colossal; and from the *servus servorum Dei* who do the work of the hospital, he has aspired to become their master. The medical staff on their part have collectively and individually a just sense of their own merits; some of them, indeed, have all the qualities of genius—except the unconsciousness which is one of its "notes." They naturally resented the threatened establishment of a dictatorship, and they said in effect, as our House of Commons did in the century before last, "that the power of the Crown had increased, was increasing and must be diminished." This, however, was not at all the view of the hospital "Crown," and the Secretary Director found his board as subservient to his dreams of empire as the Roman Senate was to those of Cæsar Augustus. But he could not bring the rebellious staff to what, in the style of addresses to the sovereign, is called a "loyal and dutiful" attitude. They continued to urge their demand for representation on the Board of Management, and they even had the audacity to issue a statement to the Governors in which it was alleged that, so far from all being for the best in the best of all possible hospitals, there were serious defects in the provision for the care of the patients and in the administration generally. This manifesto transformed what had previously been a policy of "pin-pricks" carried on within the walls of the hospital into open war before the world, or such fraction of it as reads the London newspapers. The board, which in density at least is a fine sample of British "heart of oak," has stolidly resisted the demands of the staff, apparently out of sheer incapacity to see the situation in its true light. At a meeting held on March 23d, however, it was at last made plain to them that the governors and subscribers are determined that the doctors should have a fair hearing. Mr. Russell delivered a speech in defence of himself and his colleagues in which he almost rivaled one of the most marvelous oratorical feats of his great exemplar. In the life of Mr. Childers, one of Beaconsfield's "extinct volcanoes," which has just appeared, it is related that Gladstone on one occasion, when he was afraid of Russia but did not wish to say so, got the House of Commons to vote him eleven millions of pounds without once mentioning Russia. With similar dexterity of evasion Mr. Russell gave an account of the war between his board and the staff, without once mentioning the Secretary Director. Notwithstanding all the shuffling and sophistry of the supporters of Mr. Burford Rawlings it was decided that an inquiry into all the matters in dispute should be made by an impartial committee. It is "significant of much" as Carlyle used to say, that this Committee was not appointed directly by the meeting, which preferred to depute the task of selecting it to an intermediary committee.

There the matter rests for the time, but there can be little doubt that the doctors will win, and that the Secretary Director will find himself in the unpleasant dilemma presented to a former President of the French Republic and will be called upon *se soumettre ou se démettre.* The antivivisection interest will be worked for all it is worth against them. But they have the support of the whole medical profession at their back, and what Sheridan says of the stage may be said of doctors, "When they do agree their unanimity is wonderful." The public is beginning to see that the resignation of the staff would mean the ruin of a hospital which has come to be a Mecca of neurology, attracting scientific pilgrims from the ends of the earth. It is said that the resourceful Secretary Director has a new staff ready to take the place of the present one in case he succeeds in driving them from the field. But in the whole country there could be found no men worthy to unloose the latchets of the present staff's shoes, and none could be pressed into so degrading a service but men, in a professional sense, akin to the ragged recruits with whom Falstaff refused to march through Coventry.

Medical practitioners in England as a class have little time and less inclination to take an active part in political life. Politicians treat the profession as a negligible quantity, and it is very hard to move the legislature to do anything at all for the protection of its interests or indeed for the furtherance of schemes for the public welfare which owe their origin even indirectly to medical influence. In the House of Lords for the first time in the history of the nation there is, in the person of Lord Lister, a peer representative of medicine. In the House of Commons the profession is represented by less than a dozen members in an assembly of 670. It could scarcely be expected that this handful of special knowledge could leaven such a mass of ignorance, prejudice and indifference in matters medical. Yet our medical M. P.'s are on the whole fairly vigilant in seeing that the professional commonwealth suffers no detriment. Some of them are, to parody a phrase of Johnson's, politicians generated by the corruption of professors of physic, but others are worthy representatives of medicine and are held in general respect by the House. Sir Michael Foster, the Cambridge Professor of Physiology, who sits for the University of London, of which he is a graduate, lately made his maiden speech in a debate on pure beer—a question to which the recent revelations as to the connection between arsenic poisoning and beer has given "actuality." The ordinary M. P.'s *a priori* idea of a scientific professor is that he must be an unattractive blend of gravity and dulness. Sir Michael Foster's speech, therefore, was an agreeable surprise, for it was amusing as well as enlightening. If he can rid himself of a certain donnishness of manner, which is a predominant characteristic of men belonging to what are called here the older Universities (Oxford and Cambridge, to-wit), he is pretty sure to acquire considerable influence in Parliament. This he may be trusted to use for the promotion of medical science. Sir Walter Foster is another medical M. P. who is often confounded with Sir Michael, though no two men could be more utterly different in temper of mind or in personal appearance. Sir Walter Foster was a henchman of Gladstone, who gave him the title which enabled him to disencumber himself of his aggressively Oriental forename, Balthazar. He was a hospital physician at Birmingham, and has written on ailments of the heart and other parts. His marriage with the daughter of a wealthy philanthropist has made him independent of his profession, though he still sits at the receipt of custom when there is a chance of any coming his way. But his true vocation is politics. He is a passed master in all the arts of the wire puller and for a time disputed the supremacy of Chamberlain at Birmingham. He might be a power—of the second or third magnitude—in the House of Commons, but for the fact that he too obviously, like the Smith in the *Fair Maid of Perth,* fights for his own hand.

Dr. Robert Farquharson is one of the most popular members of the House of Commons. He was for some time a surgeon in the Guards; and afterward medical officer at Rugby, the school of which Thomas Arnold (the father of Matthew Arnold) was headmaster. Dr. Farquharson's next avatar was as a lecturer at St. Mary's Hospital, London, and, like most teachers, he felt that his position called upon him to publish a book. His "Manual of Therapeutics" was for a long time in high favor with the ingenuous youth of English medical schools. Owing to the death of a cousin Dr. Farquharson virtually retired from the profession some twenty years ago, blossoming into a Scotch "laird" and a Member of Parliament. Though in his capacity of legislator he does not care to be too much identified with medicine, he maintains an active interest in his profession. He was believed to be the one man in Parliament who understood the Public Health (for Scotland) Act, a movement as long and quite as abstruse as the "Shorter Catechism." Dr. Farquharson is too unambitious, and it may be added too straightforward, a man to make a great figure as a politician, but he may find compensation in the knowledge that he is universally popular and trusted both by Parliament and by the profession.

Sir John Batty Tuke, who succeeded the late Sir William Priestley as M. P. for the Universities of Edinburgh and St. Andrew's, has not been long enough in the House of Commons to have made his mark there. He has considerable reputation as a specialist in mental diseases and has held the dignified office of President of the Royal College of Physicians of Edinburgh. Of the other medical M. P.'s there is little to be said. Mr. Dillon (once described by his own colleagues of the Irish party as a "melancholy humbug"), Sir Robert Finlay, the Attorney General, and Sir George Pilkington, who owes his political im-

portance to a successful venture in the matrimonial market, were all doctors by first intention, but can now scarcely be regarded as being within the pale. Dr. Robert Ambrose and Dr. Mark Antony Macdonnell, both of whom though practising in London are members for Irish constituencies, are little heard of in Parliament and not at all outside it. Dr. Tanner, another Irish member who won notoriety by his ultra-Hibernian rowdiness, is so broken in health that he is unlikely ever again to vex the soul of the Speaker. Dr. Rutherford Harris, the *fidus Achates* of Cecil Rhodes, was returned at the last election, but has just been unseated for bribery (proved against his agent). He too quickly found medicine too narrow for his expansive ambition, and found wealth in diamonds which he would hardly have found in drugs.

Since the dispatch of my last letter the prospects of the forthcoming International Congress on Tuberculosis have become distinctly brighter. The King has after all consented to be Patron, and the smile of royalty has materially stimulated the inflow of funds. The Congress will probably be opened by the Duke of Connaught as representative of the King.

TRANSACTIONS OF FOREIGN SOCIETIES.

British.

MODIFICATION OF SCHLEICH'S ANESTHETIC MIXTURE—CAUSE OF RHEUMATISM—ISOLATION OF SPECIFIC CAUSE—SOME PATHOLOGICAL CONSIDERATIONS—VALUE OF URINARY EXAMINATION—RHEUMATOID ARTHRITIS: ITS RELATION TO RHEUMATISM.

J. R. PROBYN-WILLIAMS, at the Society of Anesthetists, March 1, 1901, in conjunction with H. Barnard and R. J. Howard read a paper on a modification of Schleich's anesthetic mixture, as recently suggested by Wertheim of Vienna. It consists of chloroform, one part, petroleum ether, one part and sulphuric ether, two parts. Petroleum ether is now recognized in the appendix of the British Pharmacopœia where it is stated to have a specific gravity of 0.670 to 0.700. That used in their experiments showed only 0.643. With petroleum ether alone it was very difficult to kill the animals (cats) experimented with. The heart's action became more rapid, blood pressure in the arteries slowly fell, in the veins slowly rose. This increased venous pressure apparently explained the increase in the heart's volume. All these features contrast strongly with those shown by chloroform alone. With the above mixture hardly any circulatory signs were noted until the anesthetic was pushed to the extreme. In practice they have used it thirty-four times with great success on operations varying from five to forty-five minutes. The induction of anesthesia is prompt, usually less than eight minutes, easy, free of cyanosis or other cardio-pulmonary disagreeable symptoms. The hypersecretion of mucus so often present with ether was commonly absent. The degree of anesthesia was deep enough for all operative purposes with complete muscular relaxation, but so light that the patients recovered very promptly. The pupils reacted just as in the A. C. E. mixture. Shallow breathing was not observed so long as the mixture was given sufficiently freely. There were no serious after-effects. Vomiting resembled that of chloroform narcosis. The effects of postural change had not yet been determined.

F. J. BOYNTON and A. PAINE, at the Chelsea Clinical Society, March 12, 1901, read a paper jointly prepared on the infective character of acute rheumatism, and more especially with the relation which the various chronic forms bear to the causation of the acute type. In their experience rheumatism is a very definite disease, running a definite course and with rather definite lesions and symptoms. All this strongly points to the suggestion that a distinct germ is at the bottom of the disease. If, now, a germ is constantly recoverable from patients suffering with rheumatism and when injected into animals constantly produces the same lesions, it is highly probable that these germs are the cause of the disease. Pleurisy, pericarditis and nodules are just as much direct manifestations of the disease as are the polyarthritic signs. To hold that the joint lesions are the only true ones is not in accordance with the modern ideas of the disease. Although the salicylates are of value in some cases, because they are of service in a given one is not a proof that an obscure lesion is essentially rheumatic. They think they have weakened the position of those who claim that virulent rheumatism is the result of a mixed infection, because they have demonstrated that at the site of the lesions the rheumatic germs are readily destroyed and are therefore very difficult to find. From fourteen patients with rheumatic fever they have isolated a diplococcus which grows in chains in fluid media and in staphylococcic masses in solid media. Triboulet before and Wasseoneau and Malkoff during the time they were working had also isolated a diplococcus from acute rheumatism. During the past year F. Meyer has been experimenting with cases of rheumatic angina and has recovered a diplococcus which in most of its morphological characters and in all of its general results in animals after injection resembles the germ they have been describing. Their experiments have been more detailed than those of other observers and though various observers have used different media the general character of the germs are so similar as to make it very probable the cocci are identical. Meyer used a strongly alkaline and they a feebly acid medium, but the germ of each grew best on blood agar which is faintly alkaline. They have isolated this germ three times from patients with rheumatic pericarditis from the blood, twice from the throat, four times from the pericardium itself, growing them also in the exudations, twice from the urine, once from the cardiac valves and once from a rheumatic nodule. The lesions produced

in a rabbit after inoculation are identical to those produced in man. For the inoculations undoubted cases of rheumatic fever were chosen and not a shadow of doubt was entertained by the physicians Cheadle, Lees, Penrose and Garrod in attendance as to the nature of the disease. They therefore believe that if they strip the disease of valvulitis, polyarthritis, pericarditis, pleurisy and nodules it is very difficult to believe in its existence except perhaps as a constitutional tendency. They thought therefore that the pathology of the disease is now on a much firmer basis than heretofore and that when the toxins are once isolated the lesions will probably still further be explicable, both in acute and in chronic cases. They have repeatedly found the diplococcus in the joints of injected rabbits and equally frequently found them in those of rheumatic patients. In general such facts bring rheumatic joints into line with those found in pneumonia and gonorrhea as manifestations of a local infection. According to the researches of Bannatyne, Wohlmann and Blaxall, rheumatoid arthritis must also be included in this series. Gouty and syphilitic joints remain yet as those unexplained by any discovered micro-organism. It seems likely that gout is not of this class, but that syphilis very probably is, but the germ remains still to be isolated. The kidneys must be regarded as the chief avenue of elimination of the micro-organisms. The parenchymatous changes were not necessarily permanent. Although a moderate albuminuria and in malignant cases hematuria and a large quantity of albumin appeared, it seems as though the kidneys should recover without any very great damage. In rheumatism it is more and more desirable to study the urine and ascertain how the organs are acting. Probably it will be found on such observations that albuminuria of the cyclical or evanescent type depends rather completely on rheumatism or its manifestations. The similarity between gout and rheumatism suggests the indication for regular urinalysis in all cases of the latter disease. Some of the cases of malignant endocarditis they have become satisfied are the result of pure rheumatic infection without supposing the intervention of any mixed infection. Again, in certain of the joint lesions involving a destruction of the cartilages themselves, it is quite certain that only the diplococcus was at work. Hence we must assume that the disease is capable of very toxic effects, systemically and locally in the heart-valves and joint-tissues, depending as in all infections upon the virulence and quantity of the infecting germs and upon the general focal resistance of the patient.

N. C. MACNAMARA, in the discussion, said that the various toxic chemical products of germs within the system were of highly different degrees of destructive effects. For example, there are the rapidly dangerous action of the pyemic processes, the exceedingly slow course of leprosy and the arthritic manifestations of gonorrheal arthritis which may be taken as an example of processes midway between the other two. No possible doubt exists as to the truly infective nature of the gonorrheal joint affections, nor to the abundant presence of this coccus in the joint tissues. Again, the final results in the joint are peculiarly and specially analogous to those of rheumatoid arthritis. Todd years ago dwelt on the possible relation between the leucorrheal discharges and this absorption into the body from the uterine cavity and the old joint affections of the rheumatoid arthritic type in women. In 1885 Macnamara had seen a twenty-five-year-old woman in whom the presence of very extensive dental caries was the cause of a rheumatoid arthritis going on to considerable deformity and ankylosis. Since then in all cases of arthritis rheumatodea he has regularly sought and treated any possible source of general septic absorption, as the first step in a rational treatment. While it is perfectly true a percentage of the cases depend entirely upon rheumatism or gout or a neurosis, another large proportion are attributable to some form of constant chronic septic absorption, which must be removed or in some way alleviated in the true treatment.

C. O. HAWTHORNE discussed the relation existing between acute rheumatism and chronic rheumatoid arthritis as cause and effect, admitting that acute rheumatism is manifested by fever, pain and swelling in various joints, that subacute rheumatism is identical with what is also called rheumatic fever. Rheumatoid arthritis is a chronic condition which some authorities regard as the chronic stage of the others or as the clinical manifestations of a different disease. Among the causes of chronic rheumatoid arthitis distinct from any relation to subacute or acute rheumatism are the action of germs in the joints, of septic absorption from a focus elsewhere in the body and of a nervous disease variously assumed to be either primarily located in the spinal cord or in the pelvic or other viscera and from these the cord becomes secondarily involved and then the joints. There are some cases of this affection which follow directly upon an attack of acute or subacute rheumatic fever, others which occur in families in which many of the direct connections of the patients have had rheumatism. The absence of a cardiac complication in rheumatoid arthritis can no longer be accepted as the dividing line between the two diseases, because in rheumatism the heart is oftenest affected in childhood, next in adolescence, and so on progressively less and less as age advances. Most cases of rheumatoid arthritis occur in midlife and later. Charcot says that cardiac disease is of rather frequent occurrence in the true forms of this disease. Again, there are cases where a differential diagnosis between true rheumatism and true rheumatoid arthritis is wellnigh impossible. Trousseau has lately demonstrated cardiac trouble in "nodular rheumatic" disease. The speaker had himself lately seen it appear in a case of well-defined rheumatoid arthritis. The nodules of the skin, so common in childhood and youth during

rheumatism, may also appear during the rheumatoid arthritic conditions, but are more persistent, like the disease itself. Since such nodules appear in gout and in other conditions, too much can not be assumed here, but certainly the fact is strongly suggestive. It is known that certain spinal cord diseases produce vast muscular diseases and atrophy and also are capable of affecting in destructive trophic changes the joints themselves. While this is true it is also a fact that in any joint affection whatever involving rest the muscles which are concerned in its functions atrophy. This is a highly more likely cause of the muscular atrophy than a spinal lesion on account of the very great rapidity of the change. On the other hand, it is certainly conceivable that the joint lesions no matter what their cause may be set up by centripetal impulses, which, reaching the cord, initiate trophic centrifugal impulses which atrophy the muscles. Whether or not the rheumatoid arthritic changes are manifestations of true rheumatism he could not say. Like many other things in medicine too little is at the moment known about all this class of disease for us to venture any definite opinion or do more than indicate possibilities.

SOCIETY PROCEEDINGS.

NEW YORK NEUROLOGICAL SOCIETY.

Stated Meeting, Held March 5, 1901.

The President, Joseph Collins, M.D., in the Chair.

Patient for Diagnosis.—Dr. Joseph Collins presented for diagnosis and discussion a boy of ten years who presented a complex of symptoms which could not easily be placed under any one designation. He was one of twelve children, seven of whom in infancy had had marasmus or gastro-intestinal disorders. The present ailment had begun about nine months ago, at which time the boy had commenced to "hop." He complained of pain in the great toe of the left side, and also of pain in the precordial region. He had then been taken to the Mt. Sinai Hospital and while there it had been noted that there was some stiffness or weakness in the lower limbs on walking. This impairment of motion had steadily increased, so that at the present time he was practically unable to walk more than a few steps. According to the history, there had been early in the disease great difficulty in commencing the act of micturition. At present there were no symptoms referable to the bowel or bladder. He has a peculiar waddling gait, and when standing, there is a typical flatfoot. There is a peculiar knocking together of the thighs. The spasticity of the gait had been found, on closer examination, to be more apparent than real. There is a marked ankle clonus. There are no sensory disturbances. He gets up from the lying position as children do in the early stages of progressive muscular dystrophy. These symptoms, the speaker said, seemed to point distinctly to a lesion in the spinal cord in the crossed pyramidal tracts.

Dr. B. Sachs said that he had been much interested in this boy at the time he had been in the hospital. The combination of the waddling gait, so characteristic of the dystrophy, with an increase in the reflexes, seemed to be especially unusual. When the boy was stripped, it seemed to him very evident that he had progressive muscular atrophy of the Landouzy type. In addition to this he thought there was a subacute myelitis, possibly of traumatic origin. There could be no question that the calves are hypertrophied. This diagnosis had been arrived at only after careful observation for a period of several weeks. The frequent falls which such children have would easily explain the occurrence of a subacute myelitis. The spasticity had been more marked nine weeks ago.

Dr. Joseph Fraenkel said that the most prominent symptoms were those of disease of the lateral and posterior columns. At first sight the gait was that of ataxic paraplegia. On the supposition that the myelitis was the later disease one would expect less evidence of the second. The evidences of pseudohypertrophy were very marked. He inclined to the diagnosis of a subacute multiple sclerosis of a paraplegic type.

Dr. Collins thought it was safe to assume that the boy had a dystrophy, but not that there was a subacute myelitis. No one could say whether the changes in the spinal cord which accompany the dystrophies are not of such nature that double ankle clonus and double knee jerk might not develop. It was certainly a form of dystrophy which does not conform strictly to the description of any usually given. If there were an implication of the cord it was confined entirely to the crossed pyramidal tracts. He would not be willing to admit there there are any changes in the spinal cord except secondary ones.

Progressive Muscular Dystrophies with a Report of a Postmortem Examination.—Drs. B. Sachs and Harlow Brooks presented this paper. The authors stated that it could not be denied that there was any sufficient distinction between the amyotrophies and the dystrophies. In former years much stress had been laid on the muscular structure. Hypertrophied fibers were found in abundance in dystrophies, whereas in the amytrophies these fibers were not found. But later it had been shown that the hypertrophied fibers were found in other diseases than dystrophies. It was also a question whether the gray matter of the cord was affected in the primary dystrophies. The case to be reported was one of progressive muscular dystrophy of fifteen years' duration, yet the structural changes, as demonstrated by the

latest methods of staining, were very slight. The patient had been admitted to the Montefiore Home eleven years ago at the age of twelve years. Early in life the parents had noticed peculiar movements of the head and eyes. He had been in good health up to about the age of twelve years, when he had fallen and broken his leg. At the age of twelve years, after an attack of typhoid fever, it had been noted that the calves were decidedly hypertrophied. The head was enlarged and exhibited certain movements. There was a marked atrophy of all the muscles of the shoulder girdle, arm and forearm. The deep spinal muscles were intensely atrophied. The thigh muscles were atrophied. The case became an extreme illustration of a progressive muscular disease of the pseudohypertrophic type. The lad's intelligence was fair.

Muscular Pathology.—Dr. Brooks said that at the autopsy the organs were normal with the exception of an acute pneumonia and a slight myocarditis. There were no gross lesions of the brain or spinal cord. No lesion of the smooth voluntary muscular tissue could be found anywhere in the body. The psoas muscle showed extensive fibrosis. The muscles of the back all showed extensive fibroid replacement, and in places, there was a replacement by yellow fat. The trapezii were very extensively invaded. The most extreme changes were in the muscles of the calves where normal muscular tissue was lost. The autopsy had been done twenty-four hours after death, and at that time there had been no evidence of postmortem decomposition. On microscopical examination, the muscles showed extensive replacement with areolar tissue of the adult type. In the calf, occasional remnants of voluntary muscle were found. Most of the fibers of the psoas muscles were either larger or smaller than normal. The coarse striæ could usually be made out. The changes in the other voluntary muscles were of the same character, though varying in extent. In the occipital muscles the amount of connective tissue hyperplasia was less, but nuclear proliferation was prominent. Examination of various portions of the smooth muscles failed to show degeneration or hyperplasia of the connective tissue forming its framework. The heart muscle showed much less connective tissue increase than had been expected from the gross examination. The cardiac muscle was in a very natural condition, there being no atrophy, no abnormal pigmentation or abnormal nuclear activity. The blood vessels in the various tissues showed uniformly an increase in the connective tissue. No evidences of new vessel formation were found.

Nerve Cell Changes.—Numerous peripheral nerves were examined, but no appreciable degeneration of fibers was discovered. Only a few of the spinal ganglia had been properly prepared for examination, but these few showed a shrinkage of the ganglion cells similar to that produced by fixing agents. The irregular perilymphatic spaces were, however, found filled in with proliferating capsular cells, apparently indicating that this was not an artefact, but a distinct pathological process. Apparently the connective tissue of the ganglia had been increased. The connective tissue throughout the entire cord was found to be increased. The blood vessels of the cord were universally congested, but this was apparently of a hypostatic nature, due to the position of the patient before death. Nothing in the nature of a systemic degeneration of the fibers was found at any level. In the cervical region the ganglion cells in the anterior horn showed a slight nuclear eccentricity. The dendrites universally retained their power to respond to the stain. Occasionally the achromatic elements stained to a slight degree. Eccentricity of the nucleus was found more commonly in the dorsal cord than elsewhere. Lesions in the cells of the posterior horns were more infrequent than in the anterior horns. The most common lesion was a finely granular sub-division of the plaques, usually not involving the entire cytoplasm. A few of the lumbar cells showed an unusual amount of brown pigment collected about the nucleus.

Summary of Lesions.—The chief lesions were: (1) Extensive atrophy, which affected apparently all of the voluntary skeletal muscles and was confined to these muscles; (2) the production of areolar connective tissue and adipose; (3) slight general perivascular hyperplasia; (4) moderate interstitial myocarditis; (5) extensive degenerative changes in a few of the posterior root ganglia, and (6) rare changes in the cytoplasm of the ganglion cells of the spinal cord. The complete absence of the changes in the smooth muscles showed that the disease process was strictly localized in the voluntary muscular system. The authors did not look upon the connective tissue increase as an essential feature of the pathological process, but as an example of a universal function of this tissue to take the place of any tissue which had been removed. The perivascular connective tissue hyperplasia was very slight, and could not be considered as typical of the disease or as produced by it. Possibly the moderate myocarditis was associated with the connective tissue hyperplasia of the blood vessels. It did not seem to be in any way connected with the factors producing atrophy of the voluntary muscles. The changes in the posterior root ganglia seemed to be of great significance, though it was not clear that they bore any direct relation to the changes in the voluntary muscles. These degenerations seemed to be secondary in their nature, and dependent upon death or disease of certain portions of the neuron. A process similar to this occurs after amputation. There were no evidences of tract disease. The cytoplasm

changes of the ganglion cells of the cord were rare, and might represent the early stage of postmortem change.

Dr. Sachs said that these findings did not indicate that the cause was to be found in the gray matter of the cord. The disease represents a primary affection of the muscular fiber. The occurrence of stigmata of degeneration in so many cases of this dystrophy would lead one to think that these should be broadly classified under family affections. The question arose as to whether these muscular dystrophies were essentially progressive, and the statement was made that in every case the possibility of great improvement by systematic exercise should always be kept in mind in the early stage. Two illustrative cases, which had been followed for many years, were briefly reported.

Non-Progressive Cases.—Dr. C. L. Dana said that so far as the dystrophies were concerned, which were not strictly of the so-called pseudohypertrophic type but rather of the arm and leg type, it seemed to be a well-known fact that many of them cease to progress and live for many years in comparative comfort. He had personal knowledge of two families in which there were six or seven persons, going through three generations, who were afflicted with the leg or arm type of dystrophy. Some had lived to old age with only an inability to use the upper arm or perhaps the thigh muscles. One of these cases had been seen at many clinics in this city when thirty-nine years of age. The atrophies had begun at the age of nineteen, and had reached their height at about the age of twenty-nine. His weight had been reduced to eighty-eight pounds. A fairly hopeful prognosis could be given this class of cases especially when the atrophies do not begin very early in life. In his experience with pseudomuscular hypertrophy there had been only one case in which the disease had been really checked. This person was a woman of twenty-three in whom the trouble had begun at the age of eighteen. She had presented all of the typical symptoms of pseudohypertrophy of late development. He had put her on systematic exercises, and as a result the disease had not only ceased to progress, but she had absolutely improved. In another case which had been faithfully treated by exercise and massage for four years, there had been continued progress. Dr. Dana said he would like to have Dr. Brooks explain why there should be so much fibrosis in these cases. It might be that in the death of the muscle fiber an irritant poison is formed, and that this gives rise to the increased proliferation. There was a striking difference clinically between a typical spinal atrophy and an ordinary dystrophy, and he believed these diseases were very different in their origin also. The hereditary cases were of a type which is quite distinct from that of the acquired forms.

Early Invasion Not as Hopeful.—Dr. A. Wiener said that about six years ago he had presented to this Society a patient who was very much crippled in his muscular movements. In that case he had been so convinced that many muscular fibers were still intact that he had carefully trained him in exercises for six months. He had been again presented to the Society at the end of that time, and the improvement had certainly been very marked —indeed, the day previous he had been able to ride forty miles on his bicycle. On the other hand, in the dystrophies occurring early in life he did not believe much could be gained by exercise.

Dr. Leszynsky exhibited photographs of two patients whom he had had under his care for a number of years with pseudohypertrophy of the lower extremities and progressive muscular atrophy of the upper extremities. Both had died of some intercurrent disease at the age of twenty-five. Before he had seen them both had received massage and careful training in physical exercise.

Dr. Hammond said that he had recently made a postmortem examination on a case of pseudohypertrophy with rather interesting findings. In the lumbar enlargement of the cord there had been found a distinct cavity extending for several inches. In the dorsal segment was a large gliomatous mass pressing upon the cord. This was apparently a lesion independent of the disease in question. He was in a position to agree entirely with Dr. Wiener as to the beneficial effect of exercise. He had tried systematic exercise in those affected early in life, and had not found the slightest benefit from carefully conducted exercises of this kind carried on for a considerable time.

Dr. B. Onuf said that the muscles which have to do the most work were the ones most affected; the muscles which must bear the weight of the body are the first ones to become affected. It was because of this fact that he had been led to try the effect of the opposite plan of treatment, *i.e.*, rest in bed. However, the result had been disappointing.

Dr. Collins said that the postmortem examination referred to by Dr. Hammond had been on a patient that had been under his own observation for over two years. This man had been twenty-four years of age at the time of his death, and the disease had existed for fourteen years. Careful investigation into the family history had shown no similar case. Up to his eleventh year he had been free from all disease. For eleven years he had been unable to walk, and for eight years had been bedridden. Up to a short time before death he had retained the ability to move his finger though he could not move his arm, and his facial muscles continued to act well. It was almost typical case of progressive muscular dystrophy. Death had resulted from a tuberculous

infection. The brain reported on by Dr. Sachs had been from a boy under his observation for six or seven years. Assiduous attention to calisthenic exercises had made him worse in proportion to the assiduity, and that too although he had had an excellent calisthenic teacher. This had been Dr. Collins' experience in all other cases in which the disease had begun early in life. The changes described by Dr. Brooks as having taken place in the ganglion cells certainly opposed one's ideas of the relation of the neuron to disease. After five years' experience with the Nissl stain he felt in a position to assert positively that nuclear eccentricity means absolutely nothing.

Dr. Smith Ely Jelliffe said that he had heard nothing said by Dr. Brooks about the terminal end plate of the motor nerve.

Dr. Brooks replied that after attempting to study end plates he had come to the conclusion that this could only be done with methylene blue during life, and that he had been unable to do. He could not tell Dr. Dana why the connective tissue should grow up so much more in one place than in another. In the calves there had been an increase in volume, and in the pectoral muscles a decrease. It was not improbable that it was due to some inflammatory or toxemic condition in these particular muscles, or possibly that the muscle had been over exercised. He agreed with Dr. Collins about the uncertainty of the Nissl stain, and that the findings described by him as having been observed in the ganglion cells were negative.

Dr. Sachs closed the discussion. He admitted that the findings reported in the paper certainly did tend to shock one's confidence in the neuron theory as a whole.

NEW YORK ACADEMY OF MEDICINE—SECTION ON ORTHOPEDIC SURGERY.

Stated Meeting, Held March 15, 1901.

George R. Elliott, M.D., Chairman.

Infantile Spinal Paralysis.—Dr. Homer Gibney presented a boy, aged eleven years, who had had infantile spinal paralysis. There was equino-varus of the left foot with slight cavus. According to previous history, astragalectomy had been performed five years previously without beneficial results. November last Dr. Gibney exposed the tarsal bones, curetted the cartilages, sutured the wound and applied a plaster-of-Paris bandage. The result was that the foot was shown at a right angle with slight motion.

Acute Hip Disease.—A second patient, a girl six years of age, was shown by Dr. Gibney. She was suffering from acute hip disease when first seen in October, 1899. A brace was applied and the child put to bed. Her hip became worse; the hip was stretched and a plaster-of-Paris spica was applied. An abscess developed and was opened January, 1900. Improvement followed the incision, but owing to a profuse discharge, fever and loss of flesh, the hip was excised April, 1900. The child improved rapidly after the operation; a small sinus remained.

Paraplegia Complicating Spinal Caries.—Dr. Gibney presented a third patient, a girl nine years of age. She was admitted to hospital December, 1900, with the history that her disease followed an attack of diphtheria five years previously. A plaster-of-Paris jacket was worn for six weeks at onset of disease and then for eighteen months she wore a Taylor brace with head-rest attachment. In 1897 she had an attack of paraplegia which lasted six months. One year ago she had a second attack which persisted at the time of admission into the hospital. There was at that time paraplegia, incontinence of urine, increased reflexes with marked ankle clonus. December last the child was put to bed wearing a plaster-of-Paris jacket with head extension. The jacket was reapplied January, 1901, with head extension and plaster straps over the shoulders. A third jacket was applied February 21st. Improvement was gradual and child was shown with fairly good voluntary use of legs.

Dr. Royal Whitman said he hardly thought it fair to say that the paraplegia developed while under treatment by the Taylor brace. The child had come under his observation four years before with very slight deformity. The child was under poor control and had been through many hands, including osteopaths. Recently he had again seen her and referred her to the Hospital for Ruptured and Crippled. He would suggest that the case was one that illustrated ineffective treatment rather than mechanical treatment of any form.

Dr. Gibney said he simply showed the patient to demonstrate the effect of a well-applied apparatus. As a matter of fact, the paraplegia did develop while the child was wearing a Taylor brace, but was under no one's medical or surgical care. The brace was ill fitting, in fact worse than useless.

Coxa Vera.—Dr. W. R. Townsend presented a boy, fifteen years old, who came to the Hospital for Ruptured and Crippled one month ago, with the history that without any apparent cause one year previous he began to have difficulty in walking and was easily fatigued. The difficulty in locomotion had steadily increased. The limbs were equal in length and the X-ray revealed a very marked case of coxa vera. There was limitation of motion and the great trochanters were one inch above Nelaton's line. Limitation of motion, especially in flexion and extension, was very great. There was not over 15 degrees of motion on the right side and none on the left. Standing the knees could not be separated more than three inches. The patient sat with difficulty. A radiograph was

shown. He asked if any member of the Section had seen a case of coxa vera with so much limitation of motion.

Dr. Whitman said that limitations of flexion was always present in these cases, although limitation of abduction was the more marked feature. He stated that some years ago he had presented a patient before the Section with even more marked disability than the present one. In that case the deformity progressed until the patient was totally disabled. After the acute symptoms subsided he performed an osteotomy on one femur with so good a result that the operation for the lesser deformity was never made. The man finally recovered perfectly; motion returned as far as flexion and extension were concerned. He believed that operative treatment would completely relieve the condition.

Spondylose Rhizomelique.—Dr. Townsend presented a man, thirty-five years old, who five years ago began to have stiffness of the back and difficulty in walking, He had two attacks of muscular rheumatism. He had had no pain excepting in the upper part of the back and when sitting. These symptoms increased until the present time; he was obliged to use crutches. The thighs were flexed on the pelvis about 20 degrees; extension and flexion were much restricted. He regarded the lesion of the hip-joints and the spinal stiffness as typical of spondylose rhizomelique. He suggested a plaster-of-Paris jacket as of some service.

Dr. George R. Elliott said errors of diagnosis were not infrequently made and the disease mistaken for one of the varieties of chronic spinal rheumatism; frequently great spinal pain and hyperalgesia accompanied by the progress of the disease, subsiding after a while. He referred to a patient he had seen a few years ago, before the disease had been carefully described, whom he examined under an anesthetic owing to the great degree of pain present. The pain subsided after three or four years—the marked ankylosis so characteristic of the central type of the disease remaining. This patient was shown before the Neurological Society by Drs. Sachs and Fraenkel (Oct. 18, 1899).

Dr. Townsend showed two radiographs, one showing union of a fracture of the neck of the femur after use of a long traction hip-splint (patient shown before Section Jan. 11, 1901); the other radiograph was of a case of double dislocation of the hip-joint which had been treated by the bloodless reduction eight weeks before. The picture was taken through the plaster-of-Paris splint.

Congenital Clubfoot.—Dr. Judson presented a boy, five years old, first seen when there was marked and resistant typical double deformity which had been reduced by the painless continuous leverage of a simple brace applied with adhesive plaster and often removed for manipulation of the feet; later a walking brace had been used; all the apparatus used was of a common kind with a single invisible upright. The braces were made of tractable metal allowing change from the deformity to the normal and later to overcorrection. The feet followed these changes through force of adhesive plaster and later by body weight. At the age of fifteen months the deformity had disappeared. Treatment was resumed after seven months' interval the outer border of the feet having become slightly callous; walking braces were applied and worn for twenty-two months, finally laid aside January 15, 1900. On presentation the child walked and ran with normal ability and without defect in his gait. The only remaining defects were slightly shortened Achilles tendons, but these were slight as he could even walk on his heels. In this affection the following were to be considered as favorable elements: (1) The certainty of rapid growth; (2) the plastic or formative condition of the parts; (3) the absence of body weight for eighteen months; (4) the certain effect of continuous leverage; (5) the weight of the body applied on the right side of the plane between varus and valgus in virtue of which the child could stamp his foot straight; (6) the absence of necessity for haste; (7) use of tractable metal. An unfavorable point was the postponement of treatment till the child was two years old.

Dr. Whitman said he could not agree that Dr. Judson's case should be considered at all remarkable as to result; it was an average case and an average result. It was evident that there was still a slight tendency to varus dependent upon the slight equinus which still persisted. This, he thought, illustrated the weak point in Dr. Judson's scheme of treatment, that having overcorrected the varus deformity, he depended upon the weight of the body to overcome the residual equinus, whereas this deformity should be as thoroughly overcorrected during active treatment as the varus.

Dr. Judson replied that a further elaboration of the principles of continuous leverage would have secured a normal tendo Achillis and completely corrected the equinus; while the result was not absolutely perfect, he considered it as supporting the statement that an operation or violence was in this affection a confession of failure at some time in the history. In practice the resistance of tissues was one of the lesser difficulties to be overcome in the management of cases of this kind. Greater obstacles were unreasonable haste to see a result and mistaken reliance on rapid and easy methods.

Dr. Taylor regarded the result as very creditable, but did not think that all danger of a relapse was passed. He did not agree with several of Dr. Judson's statements which implied that operations were never indicated; operative treatment was often unsatisfactory, if not combined with and followed by mechanical treatment; each method had its proper field

and often both were needed. While himself inclining to conservatism, he considered Dr. Judson's remark in disparagement of operative interference much too sweeping.

Funnel Chest.—Dr. Judson presented a man, seventy-one years old, having a deformity which although rare, had been described by a number of observers. It was a curious malformation, entailing no great disability, of uncertain origin and calling for no treatment. From an angular projection at the junction of the manubrium and the gladiolus there was a continuous depression till the deepest place was reached at the end of the xiphoid appendix. The cartilages of the lower ribs were prominent, as usual, on each side and the front of the chest, although somewhat flat, was normal except for this funnel-like depression which began on each side at the nipple line and was cup-shaped at the bottom with a depth of 1½ in., unchanged by expiration (31 in.) or inspiration (34 in.). The man said he had always been so and had never known of another person similarly affected in his family. He had eighteen brothers and sisters. He had been fond of athletic sports in his youth, was a shoemaker by occupation and had enlisted in the military service in 1862. There was no history or sign of rickets or spinal disease. He had been free from notable diseases of the chest or otherwise, although years ago he had been told that he had serious chronic lung disease.

Dr. H. S. Stokes said it was difficult and frequently impossible to make a correct physical diagnosis when chest deformity existed. He cited a case of Pott's disease where the patient had been told four years ago that he had pulmonary tuberculosis and a bad prognosis had been made. He had frequently examined the sputum of this patient with negative results; all signs of lung involvement disappeared. He cited two cases of lateral spinal curvature which had lately come under his notice where errors of diagnosis had been made. In one the diagnosis of tubercular consolidation was made which turned out a slight bronchitis.

Poliomyelitis.—Dr. Myers presented a case of poliomyelitis in a boy, thirteen years old; the disease dated from early infancy; the case was exhibited to show the muscular changes—the right quadriceps was completely paralyzed and the right ligament patella was one inch long; the left quadriceps was fairly strong and the lig. patella 2¼ inches long. Osteotomy had been performed on the right side for a recurring genu valgum which had been caused by the greater power of the external hamstring muscle. The muscle was split and one-half transplanted and given to the internal hamstring and the knock knee did not occur. He called attention to the marked rotary lateral curvature of the whole dorsal spine with convexity to the left, the stronger side, while concavity was toward the side of paralysis of the lower extremity and erector spinal muscles. In clubfoot due to poliomyelitis, the shortening always occurred in the stronger or least paralyzed muscles: by analogy the erector spinæ muscles on this boy's left side, those least paralyzed should be contracted and they were. This drew the entire thorax strongly to the left and downward. To maintain his equilibrium the boy had thrown his head and shoulders to the right by voluntary effort inducing the form of curvature present.

Congenital Dislocation of Hip with Fracture of Shaft of Femur.—Dr. Elliott presented a five-months-old baby sent to him three weeks previously for diagnosis. He found dislocation of left hip and suspected fracture, both of which were confirmed by an X-ray picture. According to the history, birth of the child had been very difficult—the breech had presented and great difficulty had been experienced and instruments used. No difficulty was anticipated in reducing the dislocation; the fracture of the femur, however, complicated the matter. He said he proposed to attempt reduction under an anesthetic and, if any great difficulty presented itself, he would wait till later and do it by the Lorenz non-cutting method.

Congenital Dislocation of the Patella.—Dr. Elliott showed a patient, a young man twenty years old, with dislocation of the right patella. His relatives had told him that it was first noticed two days after his birth; he wore apparatus at various times, but nothing since 1888. The patella slipped into place on extension, but on flexion slid over the external condyle of the femur even if force was applied to hold it; there were two inches of atrophy of the right thigh; a slight degree of knock knee existed. All that the patient complained of was a sense of weakness and uncertainty of the leg. The patient wanted to know if the condition could be remedied without leaving him with a stiff knee. He preferred his present condition of slight disability to a stiff leg.

Case of Spondylolysthesis.—Dr. Taylor presented a man, nineteen years old, whose occupation was loading and unloading furniture. Last December he sought treatment for weakness of his back and occasional pains in the lumbar region at night, after hard work. About three years ago he slipped on the ice and fell heavily on the buttocks. He worked the following day. He experienced no inconvenience for some time, but within a few weeks he noticed a decided projection of the lower part of the spine, which he still has. He thinks it is less now than formerly. Examination revealed a marked projection of the fifth lumbar spine and a deep depression above it. At the bottom of this depression could be felt the fourth lumbar vertebral spine one-half inch in front of its normal position. The patient could bend forward and touch the floor and showed none of the characteristic attitudes of the rigidity of spondylitis. He was strong and able to work. There was no rectal nor bladder symptoms and no lower extremity paralysis.